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Media Misdiagnosis?
A Longitudinal Analysis of Frames, Primes, and Public Opinion in Relation to Newspaper Coverage of HIV/AIDS and Smoking

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Media Misdiagnosis?
A Longitudinal Analysis of Frames, Primes, and Public Opinion in Relation to Newspaper Coverage of HIV/AIDS and Smoking

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Dedication

For Jason, Mom, Mom-mom, Oliver, Poppy, Pops, Salem, and the rest of my family. In memory of Doc, Happy, Harper, Isabella, May, Omi, Opa, and Snuggle.

Acknowledgements

Having already finished the hard part my dissertation (i.e., everything else), I thought the acknowledgements section would be easy to write. However, after jotting down a preliminary paragraph, I soon realized that this section could easily become a tome. Unlike Oscar speeches, dissertation acknowledgements can go on forever, which I suppose is like everything in academia, and it might be the *only* part of a dissertation that someone decides to read. But in some ways, dissertations are like major motion pictures; while they require vast amounts of behind-the-scenes time and effort, those not involved in the production will only see the final product. Although 10 million people probably will never read my dissertation (but if I am lucky, 10 might), this is my scholarly swansong, so it is like my baby. To paraphrase my colleague and friend Kathleen McElroy, it takes a village to produce a dissertation. So, without further ado, I would like to thank the "academy" of academia[1]:

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[1] Instead of rank ordering whom to thank, I have alphabetically listed every individual to ensure fairness and impartiality. Following the name of each participant in my life, I have also written out an episodic account of why this person is salient on my personal agenda. For those of you reading this who do not understand a word in this footnote, not to worry; it is a parodic academic way of saying everyone listed in this section is an important part of my life.

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As I write the final words of this dissertation, I suppose that soon I will be writing a metaphorical new chapter of my life. As one of my artistic idols David Bowie once said, “I don't know where I'm going from here, but I promise it won't be boring” (Rose, 1998, p. 1). And so, I will end this academic endeavor with one more statement—fittingly, from a professor. While I am inclined to cite Professor James Moriarty, in this case, I am opting to quote the less notorious Professor Max McCombs, who never misses an opportunity to quote Sherlock Holmes in such cases and say, “the game is afoot.”

Media Misdiagnosis?
A Longitudinal Analysis of Frames, Primes, and Public Opinion in Relation to Newspaper Coverage of HIV/AIDS and Smoking

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The University of Texas at Austin, 2016

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Medical issues are considered among the most popular topics in the media. However, because much health news research tends to focus on specific attributes rather than macro frames that are universally applicable to medical issues at large, paired with the fact that most framing studies do not examine topics for more than a decade, this study explores how macro frames and stereotype primes in medical news change over time as well how these changes affect public opinion. This was accomplished by developing a content analysis to longitudinally examine medical news content from *The New York Times* and *The Washington Post*. Two topics—HIV/AIDS and smoking—were strategically selected for this study, as they both have been considered major issues for decades and written about extensively. A follow-up, agenda-setting study comparing HIV/AIDS and smoking news to related public opinion polls was also conducted to determine how much the media influence the public over time and if the general opinion corresponds with framing and priming changes in the news.

Previous research about frames, most of which examines less than a decade of coverage, emphasizes that topics in the news tend to gradually change from being episodic to thematic in nature. Therefore, the first study of this dissertation contributes to framing theory by determining whether similar patterns occur when analyzing issues during a longer period of time. The findings of the first study revealed that when examined over the course of decades, frames did not change in a particular direction; rather, there was an ebb and flow of frame changes based on whether the events of a particular year were inherently episodic (e.g., a celebrity death) or thematic (e.g., the release of a groundbreaking study).

Because journalists strive for objectivity, how the news is framed tends to be influenced by the sources they choose. Therefore, this study also examined what sources predict the frames found in news about HIV/AIDS and smoking. The results indicated that experts and government organizations were significant predictors of thematic news while laypeople predicted episodic coverage. This study also determined that the media did not perpetuate exaggerated stereotypes in coverage of HIV/AIDS or smoking.

The second study found that coverage of HIV/AIDS with combined episodic and loss frames was significantly associated with the public attributing the contraction of HIV/AIDS to individual blame. News that featured both thematic and loss frames significantly correlated with the public being in favor of societal efforts to end smoking. Thus, this study confirmed the results from experimental research that found pairing thematic and loss frames causes similar audience effects. However, unlike the former experiments, this study concluded that episodic/loss frame combinations influence public opinion as well.

Table of Contents

List of Tables xii

List of Figures xiv

INTRODUCTION 1

Chapter 1: Discovering Patterns in Medical News 1

LITERATURE REVIEW 5

Chapter 2: Study 1—Framing and Priming Effects in Medical News 5

A Brief History of Framing 5

Predicting factors of framing: Sources 6

Episodic and thematic frames 7

Gain and loss frames 10

Involuntary risk and knowingly created risk frames 12

Priming 14

Stereotypes 15

Chapter 3: Study 2—Medical News and Public Opinion 18

Agenda Setting 18

Second-level agenda setting 18

Chapter 4: The Plagues of the 20th Century—HIV/AIDS and Smoking-Related Diseases 23

HIV/AIDS 25

Smoking 33

Chapter 5: Study Purpose Summary 40

METHODOLOGY 43

Chapter 6: Content Analysis and Second-Level Agenda Setting Analysis 43

Data Collection and Sampling 43

Constructed Weeks 46

Time Frame 47
Codebook 48
Public Opinion Polls 51
Time Lag 53
Intercoder Reliability 54

RESULTS 57

Chapter 7: Study 1—Framing and Priming Results 57

Chapter 8: Study 2—Agenda Setting-Results 84

DISCUSSION AND CONCLUSION 90

Chapter 9: Changes Through the Ages 90
Discussion of Overall Findings 90
Framing patterns (or lack thereof) 90
How sources influence frames 93
Stereotype priming in the media 96
Agenda-setting effects of frame combinations and stereotype priming 98
Limitations and Future Research 99
Conclusion 101

References 104

List of Tables

Table 1. A comprehensive timeline of HIV/AIDS in the United States (1982-2014)* 30

Table 2. A comprehensive timeline of smoking in the United States (1964-2014)* 37

Table 3. Year issued, polling organization, and number of respondents for each poll related to HIV/AIDS* 55

Table 4. Year issued, polling organization, and number of respondents for each poll related to smoking* 56

Table 5. Percentages of sources in coverage of HIV/AIDS and smoking 61

Table 6. Logistic regression of sources in episodic news coverage of HIV/AIDS 63

Table 7. Logistic regression of sources in thematic news coverage of HIV/AIDS 64

Table 8. Logistic regression of sources in episodic news coverage of smoking 66

Table 9. Logistic regression of sources in thematic news coverage of smoking 67

Table 10. Logistic regression of sources in gain-framed news coverage of HIV/AIDS 69

Table 11. Logistic regression of sources in loss-framed news coverage of HIV/AIDS 70

Table 12. Logistic regression of sources in gain-framed news coverage of smoking....72
Table 13. Logistic regression of sources in loss-framed news coverage of smoking....73
Table 14. Logistic regression of sources in involuntary risk framed news coverage of HIV/AIDS....75
Table 15. Logistic regression of sources in knowingly created risk framed news coverage of HIV/AIDS....76
Table 16. Logistic regression of sources in involuntary risk framed news coverage of smoking....78
Table 17. Logistic regression of sources in knowingly created risk framed news coverage of smoking....79
Table 18. Percent of poll respondents per year that attributed the contraction of HIV/AIDS to individual blame....85
Table 19. Percent of poll respondents per year that supported a public smoking ban....85
Table 20. Pearson's correlations between public opinion attributing the contraction of HIV/AIDS to individual blame and frames, sources, and stereotypes in news coverage of HIV/AIDS....88
Table 21. Pearson's correlations between public support for a smoking ban and frames, sources, and stereotypes in news coverage of smoking....89

List of Figures

Figure 1. HIV-related mortality rates in the United States (1987-2013)* 29

Figure 2. Percent of adults in the United States who smoke cigarettes (1965-2010)*† 36

Figure 3. Time-series chart depicting percentages of episodic and thematic frames in news coverage of HIV/AIDS (1982-2013) 59

Figure 4. Time-series chart depicting percentages of episodic and thematic frames in news coverage of smoking (1964-2013) 60

Figure 5. Time-series chart depicting the number of stereotype primes in news coverage of HIV/AIDS (1982-2013) 81

Figure 6. Time-series chart depicting the number of stereotype primes in news coverage of smoking (1964-2013) 83

INTRODUCTION

Chapter 1: Discovering Patterns in Medical News

One of the most popular topics in American news is health (Avery, Lariscy, & Sohn, 2009; Pew Research Center, n.d.; A. Shah, 2011). Most individuals, from laypeople to medical professionals, learn about progress in health issues by way of the news and depend on the media to provide them with health-related information (Kang, Gearhart, & Bae, 2010; Shuchman & Wilkes, 1997). Although there is not a wealth of research on medical news, many existing analyses take the liberty to create a wide array of attributes or micro frames that are only pertinent to a particular issue or study (e.g., D'Angelo, Pollock, Kiernicki, & Shaw, 2013). This is problematic because such research does not provide journalists with generalizable recommendations that they can apply to their daily work. Therefore, there is a gap in the corpus of medical news research when it comes to examining how frames change longitudinally and the implications of these fluctuations on public opinion.

The main purpose of this dissertation is to provide insight into how macro frames, which are found in coverage of all health topics, and stereotype priming, which may stigmatize individuals, change over time in medical news. This is accomplished by developing a longitudinal content analysis that compares and contrasts the frames and stereotype primes found in the coverage of two major health issues covered extensively by journalists—human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) and smoking (Brodie, Hamel, Altman, Blendon, & Benson, 2003). Determining fluctuations in framing and priming patterns is important, as it can help journalists to become more aware of their reporting habits. Furthermore, these analyses assess the degree to which reporters

use primes, such as stereotyping, and frame the news in ways that may trigger attitudes in the public, such as blaming individuals rather than considering societal contributions to problems.

Examining news over an extended period of time is essential for analyzing how coverage of an issue fluctuates. Much of the existing frame-pattern research studied shorter time periods comprised of a decade or less (e.g., Dimitrova, 2006; Dimitrova, Kaid, Williams, & Trammell, 2005; Kim & Willis, 2007; Nacos & Torres-Reyna, 2007). Preexisting scholarship has also found that the dominant frames of an issue can change within a year (Miller & Riechert, 2001). While many of these studies tended to examine only short-term effects within the span of a few years, this longitudinal study approaches framing from a broader and more comprehensive perspective by examining an extended time period.

The frames analyzed in this study (e.g., episodic and thematic frames) have the power to influence public opinion, policy, support, and behavior (Baumgartner & Jones, 2010; Coleman, Thorson, & Wilkins, 2011; Rothman, Bartels, Wlaschin, & Salovey, 2006). Episodic frames, which are frames that focus on a particular entity, tend to dominate news coverage of a breaking story and steadily become more thematic (i.e., more general) with time (Dimitrova, 2006; Dimitrova et al., 2005; Iyengar, 1991; Nacos & Torres-Reyna, 2007). Researchers have found this shift from episodic to thematic framing has occurred in relation to a range of issues, from obesity (Kim & Willis, 2007), to the 2003 Iraq War (Dimitrova, 2006), to how Muslim Americans were framed before and after 9/11 (Nacos & Torres-Reyna, 2007). However, many related studies focused on a shorter period of time, ranging from five weeks (e.g., Dimitrova, 2006) to 10 years (e.g., Kim & Willis, 2007), rather than examining an issue over the course of several decades.

This dissertation examines two specific health issues—HIV/AIDS and smoking. Both issues are optimal topics to explore because they have been considered major public health problems for many years (Adelman & Verbrugge, 2000; Feldman & Bayer, 2009). Thus, following both issues over an extended period of time provides insight into long-term framing and stereotype priming tendencies of medical news, which may help journalists to recognize their underlying reporting tendencies. Moreover, the coverage patterns of these issues may help to predict the coverage patterns of contemporary health issues, such as the Ebola and Zika virus epidemics.

A follow-up study to the primary framing analysis is a second-level agenda-setting analysis of polling data regarding both health topics to determine if public opinion fluctuates in accordance with framing patterns. Thus, this study helps further framing and agenda-setting theories by proposing a model for frame changes that predicts shifts in public opinion about medical news. While many previous studies related to framing and agenda setting isolated frames in the analyses, some scholars have proposed that combined frames have profound effects on attitudes (D. V. Shah, Kwak, Schmierbach, & Zubric, 2004); however, there is very little research that examines the effects of frame combinations. Existing research (e.g., Hatley Major, 2009) also used simulated experiments to determine how pairing episodic and thematic frames with loss frames affect attitudes. Therefore, this study further contributes to framing and agenda-setting theory by using actual news coverage and public opinion polls to determine whether these effects occur in real life.

The analyses of this dissertation also benefit the news industry, as they offer medical journalists insight into what factors affect public attitudes and how the

media cover health topics over time. For example, if a topic is written episodically for many years and gradually becomes more thematic, this study will show at what point the frames begin to change, whether there are distinct framing patterns, and whether public opinions shift in accordance with the evolution of the framing elements. Medical journalists need to be aware of how they approach their reports, especially because the media not only have the power to sway opinion, but also change behavior (Leask, Hooker, & King, 2010; Ogata Jones, Denham, & Springston, 2006; Pierce, Dwyer, Chamberlain, Aldrich, & Shelley, 1987). Thus, it is important to systematically determine how coverage of topics such as HIV/AIDS and smoking changes through the years and how these fluctuations influence the public.

LITERATURE REVIEW

Chapter 2: Study 1—Framing and Priming Effects in Medical News

A BRIEF HISTORY OF FRAMING

The first part of this dissertation concerns framing theory. In journalism research, the crux of framing theory is the notion that an individual's comprehension of an issue is based on how the news media portray—or frame—that issue (Tankard, Hendrickson, Silberman, Bliss, & Ghanem, 1991). Due to a multitude of factors, including time and space restrictions, journalists must constantly decide what they are going to include and leave out in their reports. As a result, different articles about the same topic may contain unique facts and framing elements. Through their choice of frames, the media attempt to help the public better understand issues at large (Scheufele & Tewksbury, 2007). For example, framing a story about HIV/AIDS as a societal problem implies that the virus/syndrome is not just an individual predicament, but also a public issue. Thus, framing theory can be effectual in understanding how the news media shape their coverage (Weaver, 2007).

Framing is one of the most ubiquitous theories found in journalism-related research and has contributed to health-news analyses by illustrating how journalists structure their reports and how audiences respond to these decisions (e.g., Coleman, Thorson, & Wilkins, 2011; Holton, Lee, & Coleman, 2014; Kim & Willis, 2007; Suran, Holton, & Coleman, 2014). Thus, framing is an appropriate theory for this study. Although previous research has analyzed a range of frames, this dissertation specifically examines the news media's use of 1) episodic and thematic frames, 2) gain and loss frames, and 3) knowingly created risk and involuntary risk frames.

These frames can provide insight into how journalists incorporate issues, such as blame and risk, into their reports about medical issues. Moreover, these frames are considered macro frames, which are frames that correspond with how a reporter chooses to present an issue "in a way that resonates with existing underlying schemas among their audiences," (Scheufele & Tewksbury, 2007, p. 10). Such preexisting constructs are commonly found in the news and can be applied to a broad range of topics, and therefore, are likely to be present in medical news.

To better understand how such frames are used, Ghanem (1997) named four framing dimensions: subtopics, framing mechanisms, cognitive elements, and affective elements. This study mainly focuses on the latter two: cognitive and affective elements. Cognitive elements—which include episodic and thematic frames—help individuals understand the meaning of a topic. Human interest and an individual's proximity to an issue also affect how the person relates to the coverage. Alternatively, the affective dimension provokes emotional responses. For example, when individuals are faced with decisions, they tend to assess the risks, values, and outcomes of their potential choices. This is an especially critical process when facing medical decisions. When people consume the news, their perceptions of these factors are influenced by the framing elements they encounter, such as gain and loss frames (Tversky & Kahneman, 1981). Discussions of episodic/thematic, gain/loss, and knowingly created/involuntary frames are presented later in this chapter.

Predicting factors of framing: Sources

One of the most critical dimensions of news framing is source selection (Zoch & Turk, 1998). Although journalists attempt to remain objective, sources "have enormous power to construct news stories," (Cho, 2006, p. 119). Sources not only

influence what information is presented in an article, but they also determine how society is depicted (Zoch & Turk, 1998). Thus, “news is not necessarily what happens but what a news source says has happened because the news doesn't 'happen' until there is an exchange of information between journalists and their sources” (Zoch & Turk, 1998, p. 763).

Generally speaking, while journalists include non-expert sources, such as laypeople, in their stories, reporters tend to lean toward sources with economic and political power, such as government officials (Shoemaker & Reese, 1991; Zoch & Turk, 1998). The most common types of sources found in health news are experts, such as physicians, researchers, and other medical professionals, in order to ensure credibility (Cho, 2006; Corbett & Mori, 1999; Logan, 1991). Media scholars have studied the effects of these news sources and how they shape messages that are communicated to audiences. Such effects may be the result of the sources’ individual perspectives that they lend to the stories in which they are featured (Lasorsa & Reese, 1990). Because sources have such a profound influence on how an article is framed, they are used in this study as the primary predictors of dominant frames found in news coverage of both HIV/AIDS and smoking.

Episodic and thematic frames

This study analyzes two of the most common framing elements in news coverage (Iyengar, 1991). The first element is episodic framing, which emphasizes something particular, such as an individual or event. People exposed to episodically framed content tend to assign blame to individuals as opposed to seeing issues as public responsibilities. The second element is thematic framing, which is general in nature, does not focus on a specific entity, and instead shows the “big picture” to

help follow the evolution of an issue over time. Unlike the effect of episodic frames, people exposed to thematically framed content are inclined to attribute responsibility to society rather than individuals. While some researchers have studied such frames in health news (e.g., Coleman et al., 2011; Hatley Major, 2009; Holton et al., 2014), there has yet to be a major longitudinal analysis of how these frames change over time, which is a gap this study aims to fill.

Previous research has shown that the framing elements of topics in the news do in fact vary over time and that the dominant frames of an issue can even change within a year (Miller & Riechert, 2001). Episodic frames, which are frames that focus on a particular entity, tend to dominate news coverage of a breaking story and steadily become more thematic (i.e., more general) with time (Dimitrova et al., 2005; Iyengar, 1991; Nacos & Torres-Reyna, 2007). Related research found that, when examining a crisis that occurred during a specific time period, coverage is predominantly episodic when the topic first appears in the news. As it becomes a less heated issue, coverage becomes thematic, as there are fewer specific, related instances to cover. Scholars have found that this shift from episodic to thematic framing has occurred in relation to a range of issues, from the 2003 Iraq War (Dimitrova, 2006) to obesity (Kim & Willis, 2007). However, many of these studies spanned from five weeks (e.g., Dimitrova, 2006) to 10 years (e.g., Kim & Willis, 2007). Rather than focus on a decade or less of coverage, this study examined 32 and 50 years worth of data for HIV/AIDS and smoking, respectively. Hence, this study aims to determine if the episodic to thematic trend, as determined by previous scholarship, is still present when examining an issue for an extended period of time. Therefore, the following hypotheses are posited:

H1a: News coverage of HIV/AIDS will be primarily episodic and gradually become thematic over time.

H1b: News coverage of smoking will be primarily episodic and gradually become thematic over time.

Analyzing longitudinal framing patterns is crucial to identifying issues in medical journalism. For example, related research has shed light on the fact that the framing of health topics can have longstanding effects on public perception, even when framing elements are altered in future coverage (Holton et al., 2014). An experiment that tested whether changes in the episodic and thematic framing of health news can alter reader opinions about diabetes, immigrant health, obesity, and smoking found that thematic coverage did not persuade individuals to think of medical problems as societal issues (Coleman et al., 2011). Conversely, researchers have also found that inserting information about public health into news coverage can alter readers' attribution of responsibility; however, it does not necessary change reader perspectives of causes, consequences, or prevention of an ailment (Coleman & Thorson, 2002). Furthermore, an examination of online reader comments in response to health news did not find a significant relationship between episodic remarks and episodic news (Holton et al., 2014). And, another study focused on health news found that the topic of an article may also influence how readers frame their comments about an issue (Suran et al., 2014). For example, regardless of how journalists framed the coverage, news about personal health and obesity tended to elicit episodic and gain-framed comments, while news about chronic medical issues was more likely to generate comments with loss frames. Therefore, when it comes to blame, episodic and thematic framing may not work for medical coverage in the same way that it works for other news topics.

Perhaps one of the most important contributions to medical news research was finding that health coverage tends to be framed episodically and oftentimes induces blaming individuals for their ailments, which in turn leads to less support for public healthcare interventions (Chapman, 2001; Coleman et al., 2011; Dorfman, Wallack, & Woodruff, 2005; Higgins, Naylor, Berry, O'Connor, & McLean, 2006). This notion is especially important in relation to the coverage of medical issues because episodically framing ailments can subconsciously trigger individual blame. As mentioned previously, journalists do not necessarily intend to frame a story in a certain way. Rather, the sources they choose are more likely to dictate whether a topic will be framed in an episodic or thematic light. Thus, it is important to determine which sources are most likely to influence whether an article will be predominantly episodic or thematic. To further examine predicting factors of such coverage, the following research questions are posed:

RQ1a: What sources predict episodic and thematic frames in news coverage of HIV/AIDS?

RQ1b: What sources predict episodic and thematic frames in news coverage of smoking?

Gain and loss frames

Episodic and thematic elements are not the only frames that are frequently found in news coverage and often tied to effects on public opinion. Two other common frames are gain and loss frames, which are associated with behaviors and consequences (Edwards, Elwyn, Covey, Matthews, & Pill, 2001). For example, a gain frame indicates a benefit or value of engaging in a behavior. Thus, a gain-framed article may be about how quitting smoking increases longevity. A loss frame, on the

other hand, connects an action or risk with a negative consequence. Therefore, a loss-framed article may address how smoking increases the risk of lung cancer.

When people consume news, they are influenced by the framing elements they encounter. This is especially true when it comes to gain and loss framing, as these frames can provide a persuasive rationale for behavior change and may even elicit emotional responses (Edwards et al., 2001; Tversky & Kahneman, 1981). Because gain and loss frames have the power to be highly influential, much communication research that analyzes these frames studies them in relation to attitude and behavioral effects (Gallagher & Updegraff, 2012; O'Keefe & Jensen, 2007; Rothman et al., 2006). Generally speaking, researchers have found that gain frames are more effective than loss frames at promoting behavioral changes, though this effect is more prominent when associated risks are low (Bartels, Kelly, & Rothman, 2010; O'Keefe & Jensen, 2007). In terms of attitude effects, scholars have determined that gain and loss frames can also alter social judgments, "with losses looming larger than gains for most people" (D. V. Shah et al., 2004, p. 104). While gain frames usually induce risk aversion, loss frames are more likely to prompt risk acceptance (Kahneman & Tversky, 1984).

If implemented properly in conjunction with other frames, gain and loss framing in the news can actually help the public better understand medical issues. For example, using thematic frames in health news is an effective way to increase the understanding of how a medical problem may not entirely be an individual's fault, as others determinants may contribute to or even cause the ailment; combining these thematic frames with loss frames significantly intensifies such effects (Hatley Major, 2009). Similar research has also shown that individuals develop more complex thoughts about issues when exposed to a combination of

thematic and gain frames (D. V. Shah et al., 2004). Moreover, because the news media often influence public opinion, other studies have suggested that journalists should use more gain and thematic frames in their reports (Coleman et al., 2011; Rothman et al., 2006). Further discussion of such frame combinations is presented in the second study of this paper.

Because gain and loss frames have the ability to persuade, it is important to determine how journalists, via the sources they use, utilize both frames over time when reporting on medical issues. Therefore, the following research questions are posed:

RQ2a: What sources predict gain and loss frames in news coverage of HIV/AIDS?

RQ2b: What sources predict gain and loss frames in news coverage of smoking?

Involuntary risk and knowingly created risk frames

Although not quite as generic as episodic, thematic, gain, and loss frames, involuntary risk and knowingly created risk frames also contribute to attribution of responsibility and serve an important role in the shaping of medical news, particularly in terms of risk assessment, and are applicable to a wide range of health issues, including cancer, emergency health crises, obesity, and smoking (Driedger & Eyles, 2003; Glik, 2007; Lawrence, 2004; Nathanson, 1999). While episodic and thematic frames may subconsciously prompt the notion of blame, the use of involuntary risk and knowingly created risk frames is more overt, as it essentially frames the afflicted victims as either blameless or responsible for their ailments, respectively (Lawrence, 2004; Nathanson, 1999).

Public health risks tend to be framed as either knowingly created (meaning a condition was contracted via a deliberate decision), or involuntary (when individuals develop conditions through no action or fault of their own) (Driedger & Eyles, 2003; Glik, 2007; Lawrence, 2004; Nathanson, 1999). For example, a knowingly created risk framed article may focus on an increase in HIV cases due to a high rate of unprotected sex. On the other hand, an example of an involuntary risk framed article may discuss an increase in HIV-positive newborns. Because the infants did not decide to engage in a risky behavior (e.g., intercourse, sharing needles for intravenous drug use, etc.) that could lead to the virus, but rather, they were born with it, they involuntarily contracted the condition.

Blame is an effect of episodic and thematic frames, whereas in the case of involuntary risk and knowingly created risk frames, blame *is* the framing device. In many cases, an involuntary or knowingly created frame is inherent to the story. For example, if a journalist writes an article about hemophiliacs receiving HIV-infected blood from transfusions, the story is inherently about involuntary risk. Generally speaking, involuntary and knowingly created risk frames in medical coverage may not only have a strong influence on overall public opinion, but also on the opinions of those in control of public policy and hence, can persuade governmental responses to health issues (Hodgetts, Chamberlain, Scammell, Karapu, & Nikora, 2008; Lawrence, 2004; Nathanson, 1999). Scholars have proposed that public policy initiatives can better manage health problems if such medical issues are framed in terms of involuntary and knowingly created risks (Lawrence, 2004). Nevertheless, it is important to note that individuals do in fact take risks knowingly (for example, smoking cigarettes even though they cause cancer), and it is equally irresponsible for journalists to ignore such facts.

Because involuntary and knowingly created risk frames are so effective in persuading public opinion as well as public policy decisions related to health, coupled with the fact that there is little research related to the longitudinal patterns of both frames and what sources predict them, the following research questions are posed:

RQ3a: What sources predict involuntary risk and knowingly created risk frames in news coverage of HIV/AIDS?

RQ3b: What sources predict involuntary risk and knowingly created risk frames in news coverage of smoking?

PRIMING

While searching for framing patterns in medical news is important, analyzing priming tendencies is also essential, as primes can significantly affect public attitudes. Both frames and primes have the power to alter opinions, and like the frames analyzed in this study, primes are also considered macro constructs (Coleman & Hatley Major, 2014). While a frame is a tool that helps put the news into perspective and make it comprehensible as well as relatable, a prime is a memory-based stimulus that induces the preactivation of knowledge (Bargh, 1989, p. 18; Pechmann, 2001). Thus, priming is a function that triggers memories by way of highlighting specific attributes of an object (Ghanem, 1997) and is defined by communication scholars as the process by which media messages cue audiences' preexisting notions (Cappella, Lerman, Romantan, & Baruh, 2005). Audiences use these underlying schemas to interpret the frames implemented by a communicator. The main difference between framing and priming is that a prime is based on existing information whereas a frame may create new connections among concepts.

However, both frames and primes can jointly influence which effects, such as blame and stigmatization, are stimulated (Coleman & Hatley Major, 2014). Additionally, they can both affect public opinion. While priming is oftentimes examined through an agenda-setting lens to study politics (M. E. McCombs, 2014), it is also applicable to other topics, such as public health campaigns and societal issues (e.g., Abraham & Appiah, 2006; Pechmann, 2001). In this study, stereotype priming is analyzed to determine what—if any—stereotypes the media maintain in coverage related to HIV/AIDS and smoking.

Stereotypes

Stereotypes are prevalent in health messages, which is why it is imperative to examine them. According to Bissell and Parrott (2013, p. 223), "stereotypes based on race/ethnicity, gender, sexuality, age, and other social categories are also prevalent in American television, newspapers, magazines, movies, and other forms of media content." Although stereotypes used to be studied as frames, they are now considered primes because of their ability to cue well-learned associations (Coleman & Hatley Major, 2014). Stereotypes are knowledge constructs that connect particular behaviors or traits to specific social groups (Hamilton & Sherman, 1994). The stereotype-priming model suggests that everyone is predisposed to stereotyping groups of people (e.g., assuming all smokers share similar traits), which in turn, dictates behaviors and actions. "In this view, it is sometimes useful to capitalize on and reinforce preexisting stereotypes in order to encourage healthy, and/or discourage unhealthy, behaviors" (Pechmann, 2001, p. 189).

While the use of stereotype priming is considered debatable per se, stereotyping based on age, ethnicity/race, gender, and/or sexual orientation raises

additional ethical dilemmas. Furthermore, using certain frames, such as those that induce fear, has the power to stigmatize (Guttman & Salmon, 2004), which is especially a concern in relation to priming and racism. For example, "news stories make implicit links between Blacks and negative thematic issues…such as…AIDS…[which can] activate well-learned stereotypical associations" (Abraham & Appiah, 2006, pp. 184–185). Moreover, consistently featuring people with dark skin in material about HIV/AIDS perpetuates racial stereotypes (Coleman & Hatley Major, 2014). Because stigmatizing extends to holding individuals responsible for their ailments, if a multitude of articles about HIV/AIDS are framed episodically and feature minorities, such coverage can influence readers to think about HIV/AIDS as a predominantly minority problem *and* that victims of the virus/syndrome are to blame for their condition. But ethnic/racial minorities are not the only group associated with HIV/AIDS; "In the United States and Western Europe, many people think of AIDS as a symbol for a negatively evaluated group—homosexuals" (Maio & Olson, 1999, p. 296).

While stereotypes were once considered frames, they are now classified as primes because of how they work cognitively. Still, they share similar effects with frames and should be studied alongside them. Therefore, this study examines the use of stereotype priming in medical news by determining if specific individuals based on age, ethnicity/race, gender, and/or sexual orientation are portrayed repeatedly in a stereotypical manner in news about HIV/AIDS and smoking. In order to accurately assess whether stereotyping is actually present, the results of the stereotype analysis are compared with statistics that portray what percent of a given population actually engages in smoking or is diagnosed with HIV or AIDS. For example, if 44% of individuals diagnosed with HIV are African Americans and more

than 44% of HIV/AIDS news features African Americans, then the media would be stereotyping African Americans. Thus, to determine how stereotype priming changes over time, the following research questions are posed:

RQ4a: What are the trends of stereotype priming in news coverage of HIV/AIDS over the course of 32 years?

RQ4b: What are the trends of stereotype priming in news coverage of smoking over the course of 50 years?

Chapter 3: Study 2—Medical News and Public Opinion

AGENDA SETTING

This dissertation connects two studies, as framing and priming variables are also used in a follow-up agenda-setting analysis. Both frames and primes have the power to influence public viewpoints and generate agenda-setting effects (Comstock, 1999; M. E. McCombs, 2014). Established in the 1970s by McCombs and Shaw (1972) as a means to determine how the news media affect public opinion, agenda setting has since become a leading theory in the field of journalism research, and its effects have been detected in a multitude of studies, with topics ranging from crises to medical news (de Macedo Higgins Joyce, 2014; M. E. McCombs, 2014; Tanner, 2004; Wallington, Blake, Taylor-Clark, & Viswanath, 2010). Essentially, agenda setting is the transference of issue salience, or importance, from the media agenda to the public agenda. This study briefly analyzes the effects of second-level agenda setting—also known as attribute agenda-setting (M. E. McCombs, 2014).

Second-level agenda setting

While closely related, first and second-level agenda setting have distinct differences. First-level effects occur when the media transfer issue salience to the public agenda (M. E. McCombs, 2014). Hence, the media do not necessarily determine *how* the public feels about certain issues, but they do influence *what* issues the public thinks about and deems important. Second-level effects, on the other hand, directly concern *how* the public feels about an issue. These effects are generated from exposure to attributes.

Attributes are the characteristics "that fill out the picture of each object…[while] encompassing the full range of properties and traits that

characterize an object" (McCombs, 2014, p. 70). Maher (2001) provided an analogy to help distinguish the two main parts of second-level agenda setting. We can think of "objects" as "nouns" and "attributes" as "adjectives," as an adjective has no contextual meaning without a noun to describe. In some instances, a noun has several adjectives. Similarly, several attributes are ascribed to the issues and objects on the media agenda. Just as the media can transmit issue or object salience to the public agenda, they can cause similar effects with attributes.

Human interest and an individual's proximity to an issue also affect how someone relates to coverage. McCombs (1995) regards affective attributes and substantive attributes as two distinct elements, noting that they may be the most relevant attributes in second-level agenda-setting theory. Affective attributes provoke emotional responses. For example, if an issue is reported with a positive tone, and as a result, that issue garners a positive assessment from the audience, the positive tone can be considered an affective attribute of the report. Such attributes can be thought of as frames. Substantive attributes, on the other hand, are coverage elements that aid audiences in understanding issues and distinguishing one from another (Kiousis, Bantimaroudis, & Ban, 1999).

This second-level agenda-setting study classifies attributes as frames, sources, and stereotypes and aims to determine whether these attributes affect how the public associates medical conditions with either individual or societal blame. Moreover, this study analyzes the effects of two specific frame combinations—episodic/loss and thematic/loss. When used on their own, gain and loss frames do not significantly affect public opinion (Hatley Major, 2009; D. V. Shah et al., 2004). Shah et al. (2004) found that such frames only produced distinct effects when combined with other frames. Previous research has also determined that combining

frames can also influence perceptions of responsibility as well as emotional reactions (Hatley Major, 2009). Specifically, thematic frames combined with loss frames may cause readers to blame society rather than an individual. Conversely, such research also found that the combination of episodic and loss frames in health news does not lead readers to attribute blame to individuals (Hatley Major, 2009). Because this preexisting research was experimental, it is imperative to triangulate its findings with actual survey data and newspaper content in order to confirm if what happened in an artificial environment occurs in real life as well. Therefore, this agenda-setting study analyzes both episodic/loss and thematic/loss frame combinations and assesses whether public opinion is in fact affected when either pair of frames is preset in coverage.

Although there is some existing research related to frame combinations and public perception, most framing studies focus on the effects of a single frame while ignoring the joint contribution of several frames together. This gap in the literature "is a serious oversight in framing theory research because single-frame stories rarely, if ever, occur in real news coverage" (Hatley Major, 2009, p. 186). While Hatley Major's (2009) research contributed to this area of study, it was via an experiment that was conducted in a simulated environment. "The weakness of experiments is that they lack the realism of field studies such as the content analysis and public opinion survey" (Coleman & Wu, 2015, p. 74). This study, however, examines the combination effects of frames using real-world data. Therefore, by studying frame combinations, this study contributes to framing as well as second-level agenda-setting theory by determining whether the effects found via Hatley Major's (2009) simulated experiment are replicable when analyzing actual news coverage in conjunction with public opinion polls. This is accomplished by

examining the two main combinations used in the experiment—episodic/loss frames and thematic/loss frames—and correlating them with polling data related to individual and societal responsibility.

The polling data about HIV/AIDS collected for the study focus on individual blame, as the survey questions asked respondents if they believe that people with HIV/AIDS are at fault for their condition. Conversely, the polls related to smoking feature questions specifically regarding societal responsibility, as the questions are about whether there should be a ban on public smoking. The polls selected for analysis are further discussed in the methodology section of this paper.

For this second-level agenda-setting study, the following hypotheses are posited:

H2a: There will be a significant correlation between the public attributing the contraction of HIV/AIDS to individual blame and episodic/loss frames in news coverage of HIV/AIDS.

H2b: There will be a significant correlation between public support for a smoking ban and thematic/loss frames in news coverage of smoking.

Frames have the power to sway public opinion, but they are not the only influences on audiences. While sources can impact how coverage is framed, they may also affect public attitudes about issues in the news (Slater & Rouner, 1996). Moreover, as discussed earlier in the framing section of this paper, priming also influences the way audiences perceive media messages (M. E. McCombs, 2014). Thus, in order to find out which sources and stereotypes present in medical news over an extended period of time affect public opinion, the following research questions are posed:

RQ5a: What sources and stereotypes present in news coverage of HIV/AIDS significantly correlate with the public attributing the contraction of HIV/AIDS to individual blame?

RQ5b: What sources and stereotypes present in news coverage of smoking significantly correlate with public support for a smoking ban?

Chapter 4: The Plagues of the 20th Century—HIV/AIDS and Smoking-Related Diseases

Studying the news patterns of contemporary health topics provides insight into how the media may cover future medical issues. Moreover, the results of this study can serve as a basis for examining the longitudinal patterns of other medical topics as well. Both HIV/AIDS and smoking were strategically selected as the health topics analyzed in this study because they are prevalent issues, have been problematic for a long period of time, and have had significant developments in the past few decades, thus, making them ideal for a longitudinal study.

HIV/AIDS has been an issue since it was officially classified in the 1980s. For many years, mass media (e.g., advertisements and public health campaigns) messages supported the idea that contracting HIV/AIDS was a morality issue and those diagnosed with the virus/syndrome were considered responsible for their condition because they neglected to use protection during intercourse (Guttman, 1997). Although medical researchers have made significant progress in controlling HIV, there is still no cure. Hence, HIV/AIDS continues to be a major, global problem (CBS/AP, 2014; Mayer, 2013; Ortblad, Lozano, & Murray, 2013)

The second topic examined in this study—smoking—was very popular in American culture until scientists in the 1950s determined that it caused lung cancer (Feldman & Bayer, 2004). Lung cancer is the most prevalent fatal cancer in the United States, and 85% of people diagnosed with lung cancer have smoked cigarettes ("Lung cancer fact sheet," n.d.; Weiss, 2014). Because of its addictive nature, smoking is still an issue in society today. While the decision to use tobacco products is a voluntary choice, it is important to realize the addictive nature of

smoking and that it affects the brain in ways that individuals cannot always control. "In America, we have a strong culture of personal responsibility, but the reality of nicotine addiction does not support this idea—personal choice, at best, is very incomplete when addictive substances are at play" (Weiss, 2014, p. 1).

While society at large has made headway, when it comes to the question of who is to blame for smoking and tobacco issues, scholars stress that there is still a need to further change public opinion from primarily blaming individuals to understanding that there are many societal factors at play as well (Dorfman et al., 2005; Holton et al., 2014). This is supported by the fact that many individuals suffering from lung cancer feel shame, do not seek support, and/or hide their condition, "because it is associated with the culpability of smokers" (Chapple, Ziebland, & McPherson, 2004; Guttman & Salmon, 2004, p. 544). Some public officials have also reinforced the association between smokers and individual blame; as former U.S. Surgeon General Jesse L. Steinfeld stated in 1984, "we should make non-smoking the social norm—smoking should be made unacceptable in society" (Langer, 2014, p. 1).

Both HIV/AIDS and cancer, which again, is oftentimes caused by smoking, have been labeled "the plague of the 20th century" (Adelman & Verbrugge, 2000, p. 360). Statistics released from the World Health Organization in May 2014 list chronic obstructive pulmonary disease, lower respiratory infection, lung/trachea/bronchus cancers (which are all linked to smoking), and HIV/AIDS as the leading causes of death in the world, with only ischaemic heart disease and strokes outranking them (World Health Organization, 2014). Additionally, HIV/AIDS and tobacco use are among the most followed topics in medical news (Brodie et al., 2003).

While HIV/AIDS and smoking are attributed to different issues, they share common bonds. For example, scientists have found that HIV-positive adults are about twice as likely to smoke cigarettes and less likely to quit in comparison to the general public (Mdodo et al., 2015). Furthermore, some scholars assert that, "AIDS and tobacco morbidity share a common feature; each is the outcome of individual behavior that balances the taking of risks with a desire for pleasure" (Feldman & Bayer, 2004, p. 4). Of course, HIV/AIDS is not always the result of consensual sex. A hemophiliac can contract HIV via a blood transfusion, while a child can contract the virus via an infected mother during pregnancy, birth, or from breastfeeding (AIDS.gov, n.d.-b, n.d.-d). Moreover, an individual may develop a disease associated with smoking, such as lung cancer, without ever having smoked a cigarette. Nevertheless, HIV/AIDS and smoking are prone to causing stigmatization and may induce others to view those who suffer from HIV/AIDS or lung cancer as responsible for their condition. This may be in part because some public health advocates, determined to persuade individuals to refrain from harmful behaviors, turned to stigmatizing as a means to portray such behaviors as socially unacceptable (Feldman & Bayer, 2004). Therefore, both HIV/AIDS and smoking are optimal issues to explore via a longitudinal analysis, as there are many articles that may potentially show significant changes in the framing of the coverage over time.

HIV/AIDS

Although AIDS aroused medical apprehension in the 1970s, the Centers for Disease Control and Prevention (CDC) did not officially name the condition "acquired immune deficiency syndrome," (also frequently referred to as "acquired immunodeficiency syndrome") abbreviated commonly as "AIDS," until September

24, 1982 (AIDS.gov, n.d.-a; Avert, n.d.-b). It has since remained a global problem, and as stated by the doctor who initially discovered HIV, Luc Montagnier, "HIV/AIDS is presently the greatest of threats to mankind and, unlike the Plague, it will not go away," (Rainey, 2006, p. 1). In 1986, President Ronald Reagan requested a special report on HIV/AIDS from C. Everett Koop, who was arguably the United States' most influential surgeon general (Noble, 2013). Koop worried the report would not bode well with the conservatives in Congress who firmly opposed homosexual relations, which, according to the final report, correlated strongly with contracting HIV. Although the report featured recommendations to prevent the spread of the virus, most notably abstinence, monogamy, and condom use, the number of cases continued to rise. Over the course of approximately 32 years, HIV/AIDS-related complications had led to the death of thousands of people, affecting both celebrities and laypeople alike (CBS News, n.d.; Dobbins, 2015; Mayer, 2013).

On October 2, 1985, Hollywood film star Rock Hudson succumbed to the illness, which in turn led to heightened public awareness as well as an increase in newspaper coverage (Adelman & Verbrugge, 2000). "Huge newspaper attention to AIDS in 1987 reflected public hysteria…fueled partly by considerations then of widespread HIV testing…public perceptions [of AIDS eventually changed] from 'war against a plague' to 'management of a chronic illness'" (Adelman & Verbrugge, 2000, p. 359). Nevertheless, HIV/AIDS has a longstanding history and is still considered a critical issue while maintaining epidemic status (Mayer, 2013; Ortblad et al., 2013). For a timeline of HIV-related mortality rates in the United States, please refer to Figure 1. Therefore, HIV/AIDS, which was "reported in just a few isolated cases in the first days, has spiralled [sic] into the biggest epidemic in modern history," (Rohleder, Swartz, Kalichman, & Simbayi, 2009, p. 1) can be studied longitudinally.

For a comprehensive timeline of HIV/AIDS-related issues in the United States from 1982 until 2014, please refer to Table 1.

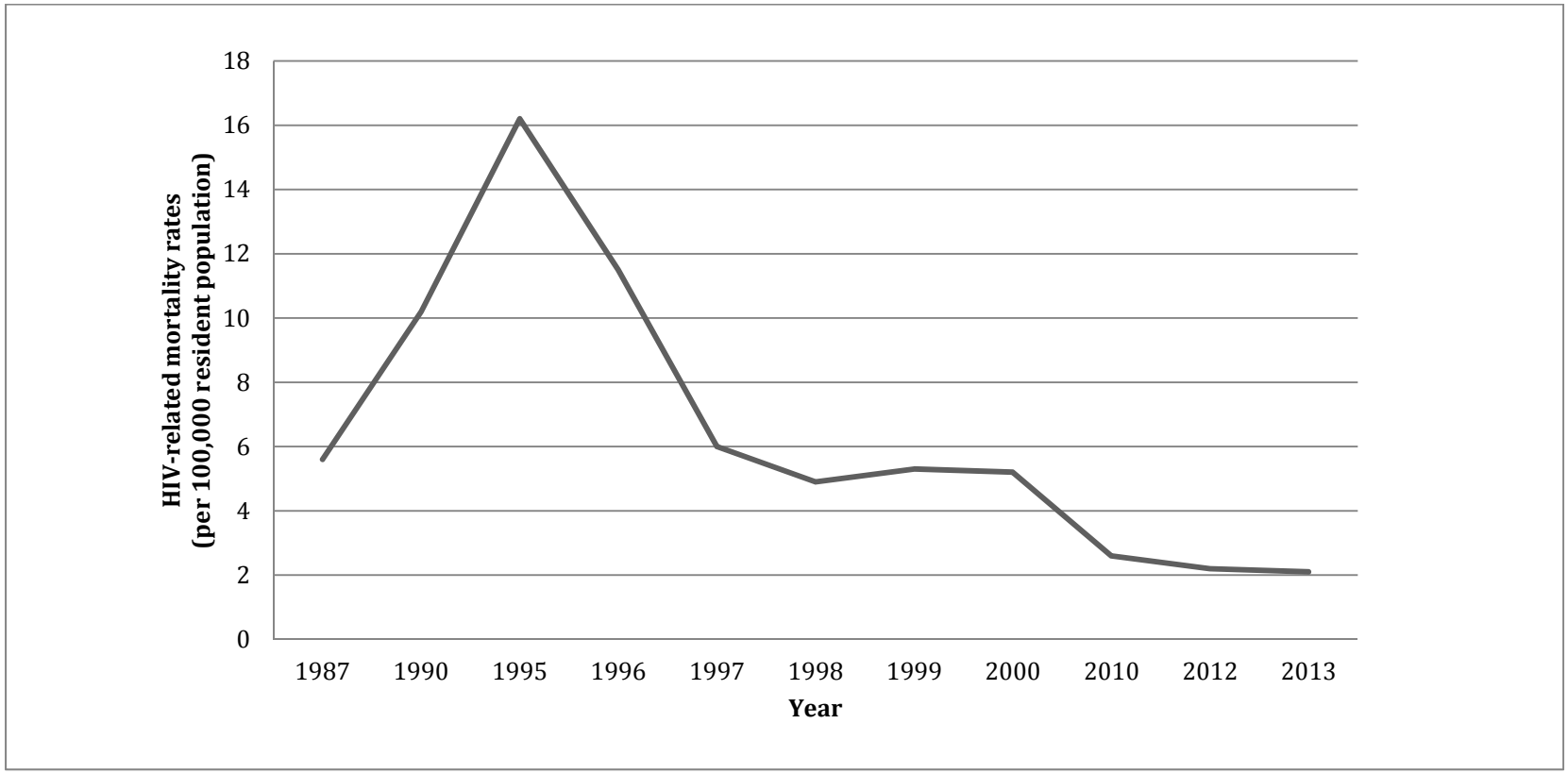
Although medical treatments have improved significantly since the 1980s, the CDC estimates that more than 1 million individuals in the United States are infected with HIV; approximately 12% of the those people are not even aware they contracted the virus (Centers for Disease Control and Prevention, n.d.-d). Moreover, the World Health Organization estimated 35 million international cases (CBS/AP, 2014). Despite the decreasing number of new diagnoses, the CDC recently recommended that, "an HIV test should be as common as a cholesterol check" (CBS/AP, 2014, p. 1), as it is still dangerous and widespread. And, like other medical conditions, such as lung cancer, HIV/AIDS does "not discriminate when it comes to income, race, or sexuality" (Dobbins, 2015, p. 1). For the past several years, nearly 50,000 individuals become infected with HIV annually (Avert, n.d.-c; Centers for Disease Control and Prevention, n.d.-d; Kaiser Family Foundation, 2014). The CDC also reported that, "gay and bisexual men are more severely affected by HIV than any other group in the United States" (Centers for Disease Control and Prevention, n.d.-c, p. 1).

Because of this assessment, which reinforces the idea that HIV/AIDS predominantly results from coital relations between men, it is possible that stereotypes related to sexual orientation will not only be present in articles about HIV/AIDS published in the 1980s, but they may also be prevalent in more current news stories as well. In addition, there may be more coverage, both past and present, focusing on HIV/AIDS-related issues when it comes to ethnicity/race, such as in the African American community, as the CDC also stated that, "Blacks/African Americans have the most severe burden of HIV of all racial/ethnic groups in the

United States. Compared with other races and ethnicities, African Americans account for a higher proportion of new HIV diagnoses, those living with HIV, and those ever diagnosed with AIDS," (Centers for Disease Control and Prevention, n.d.-b, p. 1). Although African Americans account for 12% of the U.S. population, they comprise 44% of HIV diagnoses in the United States (Centers for Disease Control and Prevention, n.d.-b, n.d.-d).

According to the most recent CDC statistics at the time that this study was conducted, an estimated 15% of gay and bisexual men in the United States are HIV positive; they also account for 67% of all HIV diagnoses (Centers for Disease Control and Prevention, n.d.-c, n.d.-d). Moreover, as of 2014, gay and bisexual men make up 54% of individuals in the United States diagnosed with AIDS; 39% of these men are African American and 24% are Hispanic/Latino (Centers for Disease Control and Prevention, n.d.-c). Using such statistics, this study can determine whether the number of HIV/AIDS-related articles featuring a stereotype (e.g., ethnicity/race or sexual orientation) accurately reflects the number of HIV-positive individuals from a given population. For example, it is possible to detect whether the media inadvertently prime audiences with the ethnicity/race stereotype if more than 44% of the articles discuss HIV/AIDS issues related to the African American population.

Figure 1. HIV-related mortality rates in the United States (1987-2013)*



* Data retrieved from: (Centers for Disease Control and Prevention, n.d.-g).

Table 1. A comprehensive timeline of HIV/AIDS in the United States (1982-2014)*

1982	The CDC coins the expression "AIDS," which stands for "acquired immune deficiency syndrome" as well as "acquired immunodeficiency syndrome." Before 1982, the illness did not have an official name.
1983	Doctors at the Pasteur Institute in France find the root cause of AIDS—a virus. This virus is not yet referred to as HIV. The CDC mentions specific populations that are at high-risk for AIDS, including: Haitians, hemophiliacs, homosexual men who are sexually active with various partners, and intravenous drug abusers. Landlords in New York evict tenants who have AIDS. A physician named Joseph A. Sonnabend is threatened with being evicted from his office building in Greenwich Village for treating patients with AIDS. This results in the first lawsuit based on AIDS discrimination.
1985	Actor Rock Hudson dies from AIDS-related complications at the age of 59. Dame Elizabeth Taylor becomes the founding national chairman of the American Foundation for AIDS Research (amfAR). Thirteen-year-old Ryan White, who became infected from a blood transfusion during hemophilia treatment, is banned from his middle school in Indiana after being diagnosed with AIDS. U.S. President Ronald Reagan publicly comments on AIDS for the first time. Up until this point, Reagan never mentioned the syndrome in public.
1986	The U.S. surgeon general issues a report on AIDS that urges more open discussions and education about the syndrome. The virus that causes AIDS is officially named the "human immunodeficiency virus." Similar to AIDS, it is commonly referred to by its acronym—HIV.

Table 1. (Continued)

1987	Diana, Princess of Wales, opens Britain's first HIV/AIDS hospital ward. During her visit, she shakes hands with resident patients—without wearing gloves—making her the first prominent celebrity to willingly touch individuals afflicted with HIV/AIDS. Two year later, she visits a U.S. hospital in Harlem and hugs a 7-year-old child with AIDS. Liberace, an Emmy Award-winning pianist, dies from AIDS-related complications at the age of 67. Although not a cure for HIV, the drug Azidothymidine (more commonly known as "AZT") is approved by the U.S. Food and Drug Administration **(**FDA) to treat afflicted patients. Originally conceived as a form of chemotherapy in the 1960s, AZT is now considered a major breakthrough in HIV treatment and slowing down the progression of the virus' symptoms. For the first time, the United Nations General Assembly holds a debate about a medical condition—AIDS.
1988	The World Health Organization proclaims December 1 as World AIDS Day to increase global awareness about AIDS.
1989	Photographer Robert Mapplethorpe dies from AIDS-related complications at the age of 42. Congress creates the National Commission on AIDS.
1990	Ryan White dies from AIDS-related complications at the age of 18.
1991	Basketball player Earvin "Magic" Johnson publicly discloses that he tested positive for HIV. In the weeks following Johnson's announcement, Freddie Mercury, the lead singer of Queen, confirms that he also has AIDS and dies the next day from AIDS-related complications.
1993	Tennis champion Arthur Ashe dies from AIDS-related complications. Ashe, who contracted HIV from a blood transfusion during a heart operation, becomes the first highly-publicized celebrity to contract HIV from a medical procedure. The first major Hollywood movie about HIV/AIDS, "Philadelphia," premiers.

Table 1. (Continued)

1996	A drug cocktail known as highly active antiretroviral therapy—or HAART—is proven to significantly reduce the viral load of HIV and soon becomes the standard for treating the virus. The Tony-award winning musical, Rent, debuts on Broadway. The play focuses on underprivileged individuals who suffer from both HIV and AIDS.
1999	The World Health Organization declares that HIV/AIDS is the leading cause of death in Africa.
2000	U.S. President Bill Clinton announces that HIV/AIDS is a threat to the national security of the United States.
2008	French doctor Luc Montagnier and his colleagues who helped detect HIV are awarded the Nobel Prize in Physiology or Medicine for their discovery.
2010	The United States rescinds its immigration and travel ban on individuals who are HIV positive.
2013	"Dallas Buyers Club" is released in theaters. Starring Matthew McConaughey, the movie focuses on the life of Ron Woodroof, a Texan who became infected with HIV in the 1980s. The film, which tackles issues related to the transgender community and homophobia in the South, wins three Academy Awards in 2014.
2014	According to The Pew Charitable Trusts, "southern states are now the epicenter of HIV/AIDS in the U.S."

* References: (AIDS.gov, n.d.-a; amfAR, n.d.; Avert, n.d.-b; BBC News, 1989; Bell, 2010; Byrne, 2015; Centers for Disease Control and Prevention, 1983; Cohen, 2014; Coward, 2007; Gioia, 2016; Goldman, 1989; Mandal, 2009; Palmer, 2008; Paprocki, 2009; Rohleder et al., 2009; Shenon, 1983; United Press International, 1987; WebMD, n.d.)

SMOKING

It was not until the middle of the 20th century that smoking became linked to medical conditions such as cancer, heart disease, respiratory diseases, and a range of related health problems (Feldman & Bayer, 2004). Thus, "the early 1950s marked a pronounced shift in the way the medical community and the general public viewed the health risks associated with tobacco products" (Bayer & Colgrove, 2004, p. 9). Following the Royal College of Physicians of London's 1962 declaration that, "cigarette smoking is a cause of lung cancer and bronchitis, and probably contributes to the development of coronary heart disease" (Bayer & Colgrove, 2004, p. 9), U.S. Surgeon General Luther Terry decided to further scientific examination of the medical repercussions of tobacco, which lead to a landmark report on January 11, 1964 that provided a laundry list of the risks (Bayer & Colgrove, 2004; Centers for Disease Control and Prevention, 2006). The authors of the report stated, "the array of information from the prospective and retrospective studies of smokers and non-smokers clearly establishes an association between cigarette smoking and substantially higher death rates…when coupled with the other [clinical and experimental] data, results from the epidemiologic studies can provide the basis upon which judgments of causality may be made," (Bayer & Colgrove, 2004, p. 10).

A year following the release of this pivotal report, the U.S. Congress passed the Cigarette Labeling and Advertising Act of 1965, which mandated that all tobacco products as well as advertisements feature the statement, "Caution: Cigarette Smoking May Be Hazardous to Your Health" (Bayer & Colgrove, 2004, p. 10). Almost 20 years after tobacco was labeled a detriment to smokers' health, in 1982, the U.S. surgeon general issued a new report that included a discussion of the potential

dangers of secondhand smoke, advising that "nonsmokers avoid exposure to second-hand tobacco smoke to the extent possible" (U.S. Department of Health and Human Services, Public Health Service, Office on Smoking and Health, 1982, p. viii). By 1986, yet another report concluded that "involuntary smoking is a cause of disease, including lung cancer, in healthy nonsmokers" (U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, 1986, p. vii). Although it was not until the 1980s that secondhand smoke was officially considered a health hazard, in 1971, U.S. Surgeon General Jesse L. Steinfeld advocated for the banning of smoking in "all public places" (Nathanson, 1999, p. 427) and stated that "nonsmokers have as much right to clean and wholesome air as smokers have to their so-called right to smoke, which I would redefine as a right to pollute" (Langer, 2014, p. 1). Around the same time that Steinfeld criticized smokers for polluting the air, the nonsmokers' rights movement began to form (Nathanson, 1999).

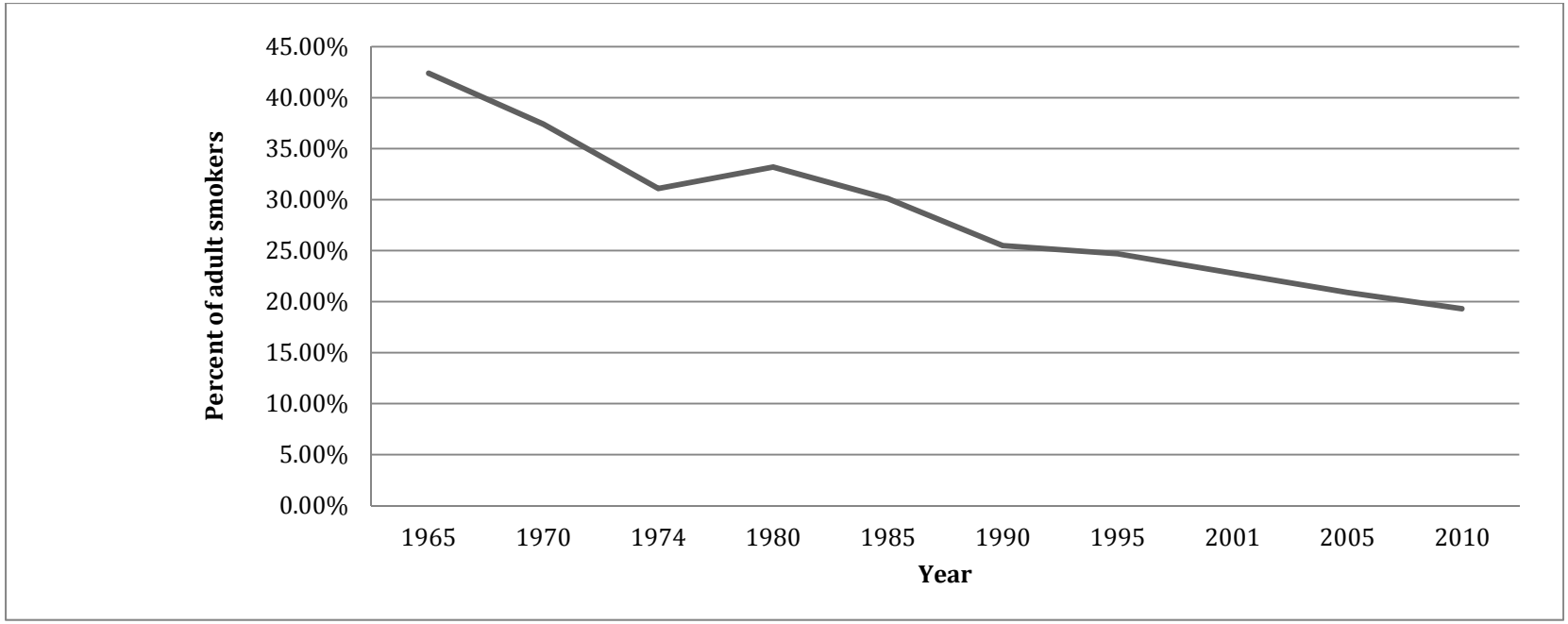
Although cigarette use has gone down considerably since the 1960s, as demonstrated in Figure 2, smoking tobacco remains a relevant public health issue, as many Americans continue to smoke, which accounts for approximately 500,000 deaths in the United States every year (Health Beat, 2012; Komaroff, 2014). Moreover, smoking is still considered the nation's leading cause of preventable deaths and accounts for about 50% of major cancer-related deaths in individuals older than 35 (Reinberg, 2015; Surgeon General.gov, n.d.).

Although generally speaking, smoking has declined over time, there are still concerns about young people regarding exposure to secondhand smoke as well as firsthand smoking, especially with the growing popularity of electronic cigarettes (also known as "e-cigarettes") among teenagers (Associated Press, 2016; Tavernise,

2013). Many anti-tobacco campaigns are targeted toward the adolescent population, as approximately 90% of smokers begin using tobacco products before the age of 18 (Bachman, 2014; The Office of Adolescent Health, U.S. Department of Health and Human Services, n.d.). The CDC also warned that, "youth use of tobacco in any form is unsafe. If smoking continues at the current rate among youth in this country, 5.6 million of today's Americans younger than 18 will die early from a smoking-related illness. That's about 1 of every 13 Americans aged 17 years or younger alive today" (Centers for Disease Control and Prevention, 2015, p. 1).

Like HIV/AIDS, because of its extensive history, smoking is a health issue that can also be studied via a longitudinal manner. For a comprehensive timeline of smoking-related issues in the United States from 1964 until 2014, please refer to Table 2. Similar to the way stereotypes in HIV/AIDS news were evaluated for this study, demographic statistics related to smoking were compared to the stereotype references found in news coverage of smoking. According to the CDC, smokers in the United States make up: 14.8% of women, 16.8% of adults, 17.5% African Americans, 18.8% of men, 23.9% of lesbian/gay/bisexual adults, and 29.2% of American Indians/Alaska Natives (Centers for Disease Control and Prevention, n.d.-a, n.d.-f). Moreover, 7.4% of middle school students and 25.3% of high school students use tobacco products (Centers for Disease Control and Prevention, n.d.-h).

Figure 2. Percent of adults in the United States who smoke cigarettes (1965-2010)*†



* Data retrieved from: (Centers for Disease Control and Prevention, n.d.-f)

† Data is reported for every five years. If statistics were not provided for five years following a given year, either the fourth or sixth year was included in this graph, depending on data availability.

Table 2. A comprehensive timeline of smoking in the United States (1964-2014)*

1964	The U.S. surgeon general releases a report that links smoking to a range of diseases, including lung cancer.
1965	Congress passes the Federal Cigarette Labeling and Advertising Act, which requires labeling tobacco products with “Caution: Cigarette Smoking May Be Hazardous to Your Health.”
1967	Silva Thins are unsuccessfully marketed to women using the slogan: "Cigarettes are like girls. The best ones are thin and rich." The U.S. surgeon general releases a new report that states smoking may not only lead to heart disease, but it is also the primary cause of lung cancer.
1969	Pan American World Airways becomes the first airline to offer passengers the option to travel in a nonsmoking section of the cabin. The U.S. surgeon general releases a report that attributes low birth weight to maternal smoking during gestation.
1970	U.S. President Richard Nixon signs the Public Health Cigarette Smoking Act of 1969 into law, which mandates that tobacco products must change their warning labels to read, “Warning: The Surgeon General Has Determined That Cigarette Smoking is Dangerous to Your Health." The Public Health Cigarette Smoking Act of 1969 also contains the following provision, which allows the tobacco industry to avoid liability in many court cases: "No requirement or prohibition based on smoking and health shall be imposed under State law with respect to the advertising or promotion of any cigarettes the packages of which are labeled in conformity with the provisions of this Act."
1971	Broadcasting cigarette advertisements is banned.
1973	Arizona becomes the first U.S. state to enforce a smoking ban in some public places. The regulation is attributed to the health risks associated with secondhand smoke. The Civil Aeronautics Board mandates that all U.S. commercial flights must offer nonsmoking sections.

Table 2. (Continued)

1976	Madison, Wisconsin becomes the first municipality in the United States to ban individuals from smoking in restaurants. A year prior, the city passed an ordinance to limit smoking in public areas.
1982	U.S. Surgeon General Report C. Everett Koop releases a report that advises nonsmokers to avoid tobacco smoke. A record-breaking amount of cigarettes are sold in the United States—624 billion.
1983	National Institute on Drug Abuse proclaims that the "most widespread form of drug dependency" in the United States is smoking.
1986	The U.S. surgeon general releases a report that concludes secondhand smoke causes "disease, including lung cancer, in healthy nonsmokers."
1988	The U.S. surgeon general releases a report about the addictiveness of nicotine.
1990	Smoking bans are enforced on flights within the United States that are less than six hours long.
1992	Former "Marlboro Man" model, Wayne McLaren, dies of lung cancer at the age of 51.
1993	The Environmental Protection Agency classifies environmental tobacco smoke as a carcinogen that is toxic to human lungs. Smoking in the White House is prohibited. Vermont becomes the first U.S. state to ban smoking in indoor establishments, excluding bars.
1994	Seven CEOs from the largest U.S.-based tobacco companies testify in front of Congress that although they would not want their own children to smoke them, cigarettes (as well as nicotine) are not addictive or carcinogenic.
1995	FDA labels cigarettes as "drug delivery devices" and affirms that, "nicotine…is a drug."

Table 2. (Continued)

1996	U.S. President Bill Clinton informs the public that the FDA will begin to regulate Nicotine as a drug. Jeffrey Wigand appears on the news show *60 Minutes* and outs Brown & Williamson—one of the largest cigarette companies—for knowingly adding addictive as well as carcinogenic substances to their tobacco products.
1999	The U.S. Department of Justice sues nine tobacco companies for a laundry list of issues, including misleading the public about the dangers of smoking, exposure to secondhand smoke, and the addictive nature of nicotine. The case is referred to as "United States v. Philip Morris USA, Inc."
2000	The U.S. Department of Transportation bans smoking on all international flights from or to the United States.
2006	The U.S. District Court for the District of Columbia rules for the United States in the case "United States v. Philip Morris USA, Inc."
2011	The mayor of New York City, Michael Bloomberg, signs a law making it illegal to smoke in public places, including Central Park and Times Square. Cigarettes butts make up approximately 75% of the litter found on the city's beaches.
2014	The town of Westminster, Massachusetts debates on a proposal that would make it illegal to sell any tobacco products. A week later, after receiving much criticism from disapproving residents, the town's board of health announces that the proposal will no longer be deliberated.

* References: (Centers for Disease Control and Prevention, n.d.-e; Ciment, 2015; "Everything you ever wanted to know about U.S. v. Philip Morris but were afraid to ask," n.d., "Jeffrey Wigand: Biography," n.d., "Jeffrey Wigand on 60 Minutes," n.d., "United States v. Philip Morris (D.O.J. lawsuit)," n.d., U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, 1986, U.S. Department of Health and Human Services, Public Health Service, Office on Smoking and Health, 1982, "U.S. v. Philip Morris USA," n.d.; Frontline, n.d.; Hilts, 1994; Lawler, 2014; Murphy, 2014; Nathanson, 1999; Ossad, 2011; Pan, Barbeau, Levenstein, & Balbach, 2005; The New York Times, 2000; The United States Department of Justice, n.d.; Tobacco.org, 2016)

Chapter 5: Study Purpose Summary

This dissertation primarily explores how core frames and stereotype primes in the news media change through the years and how these fluctuations may also contribute to shifts in public opinion over time. Because of the media's influence on the public, it is important to determine framing and stereotype priming patterns in the news. If patterns are discovered, it is imperative for journalists to be aware of them and how they create their content, as "reframing health risks and responsibilities is crucial to changing the opinion environment in which policy change will be considered" (Lawrence, 2004, p. 59).

By examining the evolution of news related to two prominent health issues that have been covered extensively—HIV/AIDS and smoking—this dissertation has two specific goals: 1) To determine how the frequency of central frames and primes in news coverage related to HIV/AIDS and smoking change over time and what sources predicts their presence, and 2) to reveal whether public opinion fluctuates in conjunction with changes in news coverage. Specifically, will the public view HIV/AIDS and/or smoking primarily as societal issues when the news is framed with thematic and loss language, and, conversely, will the public assign blame to individuals when articles feature both episodic and loss language? And, does the presence of certain sources or stereotypes produce similar effects?

The following hypotheses and research questions mentioned throughout the literature review are repeated below (in order of their appearance in this paper):

H1a: News coverage of HIV/AIDS will be primarily episodic and gradually become thematic over time.

H1b: News coverage of smoking will be primarily episodic and gradually become thematic over time.

RQ1a: What sources predict episodic and thematic frames in news coverage of HIV/AIDS?

RQ1b: What sources predict episodic and thematic frames in news coverage of smoking?

RQ2a: What sources predict gain and loss frames in news coverage of HIV/AIDS?

RQ2b: What sources predict gain and loss frames in news coverage of smoking?

RQ3a: What sources predict involuntary risk and knowingly created risk frames in news coverage of HIV/AIDS?

RQ3b: What sources predict involuntary risk and knowingly created risk frames in news coverage of smoking?

RQ4a: What are the trends of stereotype priming in news coverage of HIV/AIDS over the course of 32 years?

RQ4b: What are the trends of stereotype priming in news coverage of smoking over the course of 50 years?

H2a: There will be a significant correlation between the public attributing the contraction of HIV/AIDS to individual blame and episodic/loss frames in news coverage of HIV/AIDS.

H2b: There will be a significant correlation between public support for a smoking ban and thematic/loss frames in news coverage of smoking.

RQ5a: What sources and stereotypes present in news coverage of HIV/AIDS significantly correlate with the public attributing the contraction of HIV/AIDS to individual blame?

RQ5b: What sources and stereotypes present in news coverage of smoking significantly correlate with public support for a smoking ban?

METHODOLOGY

Chapter 6: Content Analysis and Second-Level Agenda Setting Analysis

The crux of this study aims to uncover emergent patterns in the framing and priming of news stories concerning HIV/AIDS and smoking. Therefore, utilizing a content analysis is a suitable approach to systematically examine the data. Content analysis is one of the most popular methods of mass communication research (Neuendorf, 2002) and is described as "a research technique for the objective, systematic, and quantitative description of the manifest content of communication" with a goal of describing message content, making inferences about audiences and producers audiences of the content, and to predict the content's effects on its audience (Berelson, 1952, p. 18).

Following the primary content analysis, a brief analysis of polling data (e.g., six similar questions related to HIV/AIDS that were asked over the course of three decades) is presented to determine general public opinion changes over time.

DATA COLLECTION AND SAMPLING

The dataset for this study is comprised of newspaper articles concerning health issues related to HIV/AIDS and smoking. Thus, the unit of analysis is the article. Although it would have been optimal to collect articles from one conservative newspaper and one liberal newspaper, there were some issues with finding a suitable conservative publication to use for this study. In many cases, there was a lack of necessary resources, such as full access to a publication's content dating back to the 1960s. In other instances, certain publications could only be accessed using search engines that did not provide the options necessary to find

articles about certain topics during a specific date range. The conservative newspapers that were disqualified as potential publications for this study due to the issues noted above include the *Chicago Tribune*, *The Dallas Morning News*, *The San Diego Union-Tribune*, and *The Washington Times*. Other conservative publications that were more easily accessible did not feature enough relevant content, especially in the case of HIV/AIDS, to create a robust sample. For example, the *New York Post* did not publish any articles related to HIV/AIDS until 1997. This was found by conducting both an index and manual search on LexisNexis, which provides full access to the paper. A similar issue occurred with the *St. Louis Post-Dispatch*, as the publication's website search engine only provided one result between 1982 and 1990. Moreover, a search on LexisNexis (i.e., the only other available search engine that features content from the newspaper) found there was virtually no coverage of HIV/AIDS prior to 1989. To give this scenario some perspective, a LexisNexis search for relevant content for HIV/AIDS in *The New York Times* and *The Washington Post* resulted in 2,598 and 1,654 results respectively between January 1, 1984 and December 31, 1987. Thus, the sample for this study was collected from *The New York Times* as well as *The Washington Post*.

Many researchers have utilized *The New York Times* coverage as a primary source for data collection in content analyses (Althaus & Tewksbury, 2002; Baker, 1986; Chyi & McCombs, 2004; Lawrence, 2004; Moon, 2014; Winter & Eyal, 1981). Moreover, the ubiquitous publication "is considered the most prestigious national newspaper…it is *the* elite U.S. newspaper" (Winter & Eyal, 1981, p. 379), is available nationwide, and ranks among the most-circulated daily newspapers in the United States (Alliance for Audited Media, n.d.). *The Washington Post* is also considered one of the most-circulated American newspapers (Alliance for Audited Media, n.d.), and

similar longitudinal studies have used both *The New York Times* and *The Washington Post* for their sources of data (e.g., Dorfman et al., 2014; J. K. Lee & Coleman, 2014). Agenda-setting researchers have also determined that "it is reasonable to assume that the nonprestige [sic] press gives comparable coverage to important issues…[and] news flows downward from the elite dailies" (Winter & Eyal, 1981, p. 379). Thus, it is acceptable to assume that both *The New York Times* and *The Washington Post* will provide comparable coverage to lesser-known media outlets.

Data collection was limited to these two sources because of the long periods of the time being studied, with 50 years of smoking coverage and approximately 32 years of HIV/AIDS coverage. The sampling frame included all eligible articles from these newspapers that were published during the allotted time frame (which is elaborated below). In order to collect articles published over the course of half of a century, using two search engines to collect data was necessary. Therefore, articles dating from 1964 to 1983 were collected from ProQuest while the remainder was collected from Lexis Nexis. Similar longitudinal studies have used both LexisNexis and ProQuest to find newspaper articles (e.g., J. K. Lee & Coleman, 2014) and other scholars have cited similar reasons for using both databases (e.g., Adams & Coltrane, 2007).

Based on a preliminary index search, the following indexed terms were chosen to find relevant articles about HIV/AIDS: "AIDS & HIV," "AIDS & HIV reporting," "AIDS & HIV testing," "AIDS & HIV treatment," and "AIDS & HIV policy." Using the same search method, the following terms were chosen to find relevant articles about smoking: "smoking bans," "smoking cessation," "smoking," "tobacco & health," and "tobacco regulation & policy." Manual searches were also conducted

using the terms “AIDS,” “HIV,” “smoking,” and “tobacco” to ensure that no relevant articles were inadvertently left out of the search results.

CONSTRUCTED WEEKS

Constructed week sampling is the most optimal methodology for the purposes of this study. To ensure the chosen methodology would produce an appropriate amount of data to analyze, both constructed week sampling and systematic random sampling were tested in a preliminary search for relevant content. Although systematic random sampling provided more data than constructed week sampling, the latter methodology produced a more manageable yet still sufficient number of articles for the purposes of this study.

Other media researchers agree that “stratified sampling that yields constructed weeks has been the most convincing response to the problem of systematic content variation in media content” (Hester & Dougall, 2007, p. 810). While there are many types of sampling strategies to choose from, “the cyclic nature of media content can render simple random sampling inefficient compared to other types of sampling” (Lacy, Riffe, Stoddard, Martin, & Chang, 2001, p. 837). This is especially pertinent to daily newspapers because of exceptionally large news holes on Sundays, particularly small news holes on Saturdays, large weekend sports sections, and to some extent, additional advertisement space on Wednesdays and Thursdays (Riffe, Aust, & Lacy, 1993). Therefore, Riffe, Aust, & Lacy (1993) argue that simple-random sampling newspaper articles could result in more of one day being selected than another, which would result in an inaccurate representation of the coverage. Thus, constructed week sampling was the chosen method for collecting the data.

Constructed week samples "involve identifying all Mondays, and randomly selecting one Monday, then identifying all Tuesdays, and randomly selecting one Tuesday, etc., to 'construct' a week that ensures that each source of cyclic variation—each day of the week—is represented equally" (Lacy et al., 2001, p. 837). When it comes to health coverage in newspapers, recent research has determined that six constructed weeks may provide a more accurate representation of one- and five-year populations (Luke, Caburnay, & Cohen, 2011). Similar to the methods implemented by Lee & Coleman (2014), who conducted a longitudinal analysis of polling data and newspaper coverage from 1960 through 2004, this study also examines coverage dating back to the mid-1960s through the present decade. Also similar to Lee and Coleman (2014), this study examines at least one to two years worth of coverage from each decade. Therefore, based on Luke, Caburnay, & Cohen's (2011) recommendations, six constructed weeks of data were collected for every five-year period.

TIME FRAME

Because the U.S. surgeon general issued an official report linking smoking with cancer (among other diseases) on January 11, 1964 (Bayer & Colgrove, 2004; Centers for Disease Control and Prevention, 2006), the sample frame extends from January 11, 1964 through January 11, 2014 to yield 50 years of data. It is important to note that AIDS does not appear on the news agenda until 1982, when the syndrome was officially named by the CDC, while the term HIV was conceived in 1986 (AIDS.gov, n.d.-a). Therefore, there are approximately 32 years worth of HIV/AIDS coverage.

CODEBOOK

Each article was coded to identify whether its dominant frame was: 1) episodic or thematic, 2) gain or loss, and/or 3) involuntary risk or knowingly created risk. For example, an article's dominant frames could be both episodic and loss, however, it could not be both episodic and thematic. Frames were coded as either being (0) not present or (1) present.

Even though journalists attempt to write objective pieces, sources tend to direct the framing of an article (Coleman et al., 2011; Lasorsa & Reese, 1990). The sources included in the codebook were developed based on existing literature that analyzed sources in the news (e.g., Cho, 2006; Holton et al., 2012; Lasorsa & Reese, 1990). Thus, the sources examined in this study were conceptualized as: activists, business sources, experts (e.g., academics, doctors, researchers, and scientists), laypeople, politicians, government organizations (e.g., the National Institutes of Health), non-profit organizations, professional organizations (e.g., the American Medical Association), legal sources, and "other" sources. Sources were coded as being (0) not present, (1) present once, or (2) present more than once. For example, if a particular politician was quoted multiple times throughout the article, but she was the only politician featured as a source, the category "politicians" would be coded as (1). However, if two or more politicians were quoted in a story, then "politicians" would be coded as (2).

Other variables that were coded included the presence of stereotypes. As mentioned earlier, "stereotypes based on race/ethnicity, gender, sexuality, age, and other social categories are also prevalent in American television, newspapers, magazines, movies, and other forms of media content" (Bissell & Parrott, 2013, p. 223). Therefore, five stereotypes were examined: age (e.g., minors, elderly), gender

(e.g., female, male, and transgender), ethnicity/race (e.g., African American, Haitians, and Hispanics/Latinos), sexual orientation (e.g., bisexuals, heterosexuals, and homosexuals), and "other" (e.g., mental illness, poverty, and religion). Other studies that have examined stereotype priming (e.g., Coleman & Hatley Major, 2014) have used similar groupings and have also noted that in recent years, the number of stereotypes in health messages, such as those in public service announcements, have effectively been reduced. Stereotypes were coded as either being (0) not present or (1) present when there was a mention of any age, ethnicity/race, gender, or sexual orientation, regardless of what it was.

If an individual's age, ethnicity/race, gender, or sexual orientation was merely mentioned in an article, it did not constitute a stereotype, and therefore, was not coded as such. This is because a straight mention will not necessarily prime audiences. For example, a story did not necessarily perpetuate stereotypes about women just because it featured a female. And, if every article were coded based on whether gender was mentioned, then almost every article in the sample would be coded as featuring the gender stereotype. A similar example related to ethnicity/race is coverage of Earvin "Magic" Johnson being HIV positive. Although it is common knowledge that Magic Johnson is African American, such stories were not coded for the ethnicity/race stereotype unless they featured specific content about HIV/AIDS and African Americans.

Because stereotyping in print journalism is not as overt as it is in other media (such as advertisements), as journalists strive for objectivity, stereotypes were considered present in the sample news coverage if they were: 1) the topic of an article (an example of this from the sample is a story coded for the ethnicity/race stereotype: "Study to Look at Why So Many Blacks Smoke"), or 2) mentioned

gratuitously. For instance, a gratuitous mention of ethnicity/race is stating someone's ethnicity or race when it has no bearing on the context of the story. Although such out-of-context information may be subtle, it does queue stereotypes, and therefore, is considered a prime. An example of this from the sample is an article titled, "Citing 'State of Emergency,' New York Starts Drug-Clinic Program to Fight AIDS." Although the story is about a program developed to treat drug addicts in order to curb the spread of HIV via intravenous drug usage, the following sentences concluded the article: "He [an assistant to the director of the State Division of Substance Abuse Services] said the cost of operating the centers would be largely borne by the Federal-State Medicaid program for the poor. AIDS, which is caused by the human immunodeficiency virus, or HIV, destroys the body's ability to fight off fatal diseases that a normal immune system would easily overcome. The major risk groups are homosexuals who have been sexually active and intravenous drugs users. It is estimated that 20 to 30 percent of people infected with the AIDS virus will come down with the fatal illness in three to four years." Although the entire article was about HIV/AIDS affecting drug users, homosexuals were needlessly mentioned in the second to last sentence. Because there were no other mentions of sexual orientation (as this information was not even pertinent to the story), the article was coded as featuring the sexual orientation stereotype prime.

In order to determine whether actual stereotype priming is present in the news, the percent of articles featuring stereotypes was compared to real-world percentages. For example, if homosexuals comprise 54% of all AIDS diagnoses and more than 54% of HIV/AIDS coverage features homosexuals, then the media misrepresented the homosexual population and therefore, contributed to an inaccurate stereotype of the gay community. Moreover, the continuous use of the

homosexual stereotype could prime audiences to exaggerate the association between HIV/AIDS and homosexuals.

Additional variables in the codebook included the news outlet (i.e., *The New York Times* or *The Washington Post*), the date the article was published, and whether the article was about HIV/AIDS or smoking.

PUBLIC OPINION POLLS

A second-level agenda-setting analysis was also conducted to determine how the public thinks about HIV/AIDS and smoking through the decades and whether attitudes change in accordance with frame changes as well as the presence of particular sources and stereotypes.

Based on the preliminary searches, it was determined that it is nearly impossible to find a significant amount of polling data related to either HIV/AIDS or smoking that features consistent or even similar questions asked over the course of decades. Because of the inconsistent nature and limited amount of public opinion polling data, it was necessary to use a conglomerate of relevant polls from various institutions and agencies. This method of data collection is not expected to skew the results because similar studies have used this approach as well, and in some cases, even included regional polling data (e.g, Erskine, 1966; E. M. Rogers, Dearing, & Chang, 1991; T. F. Rogers, Singer, & Imperio, 1993; Singer, Rogers, & Corcoran, 1987). Because it is sometimes possible to find a single question that is asked in a similar manner throughout the year, all the polls used in this study were selected based on similar phrasing.

The Roper Center for Public Opinion Research was utilized to collect the polling data. Roper's iPOLL survey database, which provides access to data from

major polling institutions in the United States, was used as the search engine to find existing and pertinent polling data from organizations such as CBS News, the Gallup Organization, The Henry J. Kaiser Family Foundation, and *The Washington Post*. Other public opinion studies have also used the Roper Center archives and iPOLL to collect survey data from a conglomerate of polling agencies (e.g., Jacobsen & Saultz, 2012; E. M. Rogers, Dearing, & Chang, 1991; Sparrow, 2008). Each year examined in this agenda-setting analysis corresponded with a single question asked in a single poll. For example, in 1991, only the Gallup Organization asked whether respondents believed that having HIV/AIDS was an individual's fault. This question was not asked again until 1997. Prior to 1991, this question was not present in polling data until 1987.

On the topic of HIV/AIDS, six survey questions were singled out for analysis, one from each of the following years: 1987, 1991, 1997, 2002, 2011, and 2012. Although they were administered by different agencies (e.g., CBS, the Gallup Organization, The Henry J. Kaiser Family Foundation, and *The Washington Post*, etc.) all six questions feature an almost verbatim variation of the same inquiry: whether the respondent thinks that that most people with HIV/AIDS in the United States today became infected because of irresponsible personal behavior or through no fault of their own. This polling question reflects three of the frames analyzed in the previous study: the focus on individual behavior equates to the episodic frame, the focus on the outcome of contracting HIV and developing AIDS equates to the loss frame, and the irresponsible behavior equates to the knowingly created risk frame.[2]

[2] Because this second study is attempting to replicate Hatley-Major's (2009) frame combinations, involuntary risk and knowingly created risk frames were not included in the agenda-setting analyses. Arguably, this polling question about HIV/AIDS could be seen as mentioning the two eliminated frames, but using them in the analyses would not provide a direct comparison with Hatley-Major's (2009) study. Based on this logic, gain frames were also removed from the analyses.

Each polling question also features similar response choices: agree, disagree, and no opinion. Analyzing the answers to this question, asked six times over the span of a quarter of a century, can help determine whether public attitudes about HIV/AIDS and blame changed between 1987 and 2012.

For polls related to smoking, one of the most consistent questions asked was whether smoking should be banned in public places. Such polling questions can be studied in relation to thematic frames in news coverage because of the societal perspective. As stated by Holton et al. (2011, p. 10), "people today routinely acknowledge that smoking bans and cessation programs—all social factors— are just as important as a smoker's will power and desire to quit."[3]

In summary, this second-level agenda-setting study specifically examines whether the frame combinations used in Hatley-Major's (2009) study—episodic/loss and thematic/loss—affect whether public opinion of HIV/AIDS and smoking is steered toward individual or societal blame, respectively.

TIME LAG

To analyze agenda setting effects, it is imperative to consider the time lag for the effects to occur. Previous scholarship suggests that "the optimal effect span" transpires at approximately four weeks (Winter & Eyal, 1981, p. 381; Zucker, 1978). This timespan for data collection is typical in agenda-setting research and has been effectively implemented in related studies (M. McCombs, 2004; Wanta & Hu, 1994). Therefore, a month's worth of news coverage was collected for each poll analyzed in this study. For example, if a poll about HIV/AIDS was first issued on October 3,

[3] Although the loss frame is not present in the selected polling question, the presence of dominant loss frames was still coded in the articles collected one month prior to the issuing of each poll. Therefore, it was still possible to determine whether loss frames combined with episodic and thematic frames had significant effects on opinions about public smoking bans.

1997, then articles about HIV/AIDS that were published from September 3, 1997 through October 3, 1997 in *The New York Times* and *The Washington Post* were collected.

The newspaper articles in the sample for this agenda-setting study were coded using the same variables conceptualized for the primary framing analysis. However, while constructed weeks were used to find data for the first study, a separate content analysis was completed for this second study by collecting all pertinent articles from the month leading up to each poll. To see information related to the number of respondents, polling organization, and year that each poll was issued, please refer to Tables 3 and 4.

INTERCODER RELIABILITY

Three independent coders coded data for the first study; two coded data for the second study. Prior to coding the entire data set, 20% of the articles from each study were selected at random for intercoder reliability. Satisfactory Krippendorf alpha scores (see Hayes & Krippendorff, 2007) ranging from .82 through 1.00 were established among all variables in the final pretests.

Table 3. Year issued, polling organization, and number of respondents for each poll related to HIV/AIDS*

Year	**Organization(s)**	***N***
2012	The Henry J. Kaiser Family Foundation *The Washington Post*	1,524
2011	The Henry J. Kaiser Family Foundation	2,583
2002	Harvard University The Henry J. Kaiser Family Foundation *The Washington Post*	1,402
1997	Cable News Network Gallup Organization *USA Today*	872
1991	Gallup Organization	1,014
1987	Gallup Organization	1,569

* Some institutions collaborated in administering a survey. All participating organizations are listed in this table.

Table 4. Year issued, polling organization, and number of respondents for each poll related to smoking*

Year	**Organization(s)**	***N***
2004	Gallup Organization	2,250
1994	CBS News *The New York Times*	1,215
1993	American Cancer Society	1,001
1991	Gallup Organization	1,003
1990	Gallup Organization	1,240
1988	Gallup Organization	1,000
1987	Gallup Organization	1,015
1977	Cambridge Reports/Research International	1,500

* Some institutions collaborated in administering a survey. All participating organizations are listed in this table.

RESULTS

Chapter 7: Study 1—Framing and Priming Results

The collected sample resulted in 965 articles, with 57.2% coming from *The New York Times* and 42.8% from *The Washington Post*. Although the time frame for this study is January 11, 1964 through January 11, 2014, none of the dates that were randomly selected during the data collection process come from 2014. This is most likely because there was only one viable month in 2014 (i.e., January) from which data could be collected. Hence, the most recent articles in this data set technically come from 2013. Overall, 50.3% of the articles were about HIV/AIDS and 49.7% covered smoking. As displayed in Figure 3, thematic frames (N = 52.8%) were slightly more prevalent than episodic frames (N = 47.0%) in articles about HIV/AIDS when examining the overall sample. H1a hypothesized that news coverage of HIV/AIDS would be primarily episodic and gradually become thematic over time. Episodic articles dominated HIV/AIDS news during 1983, 1985, 1990-1996, 1999, 2006, 2009, and 2012-2013. In both 1987 and 2010, 50% of HIV/AIDS news was episodic. These fluctuating frame changes do not support the hypothesis, which predicted an initial spike in episodic news followed by a gradual decline that would be in direct inverse proportion to a rising trend in thematic coverage. Instead, there was a trend in which articles that were predominantly episodic fluctuated approximately every two years between increases and decreases, ranging from being as low as 0% to dominating as much as 100% of a year's coverage. Alternatively, thematically framed articles followed a somewhat similar pattern (with just a few two-year periods showing a consecutive increase or decrease from the previous two-year period). Thematic articles also ranged from 0% to 100%. Therefore, there was no linear framing trend and H1a was rejected.

Similar to H1a, H1b predicted that news coverage of smoking would be primarily episodic and gradually become thematic over time. As displayed in Figure 4, thematically framed stories were more common than episodic articles in coverage of smoking (N = 63.0%). However, the years 1966, 1970-1971, 1973, 1975, 1977-1978, 1982-1983, 1993-1994, 1996, 2002, 2010, and 2012 exhibited percentages of episodic coverage that were either greater or equal to the percentage of thematic coverage.

Just as with the analysis for H1a, the analysis for H1b found no observable linear trend for either episodic or thematic frames. Also similar to the previous analysis, there were mostly yearly and biannual frame fluctuations, where both episodic and thematically framed coverage would repeatedly spike and then plummet. Episodic articles ranged from 0% to 83% of a year's coverage while thematic news ranged from 0% to 100%. Because this ebb and flow does not resemble a linear trend, H1b was also rejected.

Figure 3. Time-series chart depicting percentages of episodic and thematic frames in news coverage of HIV/AIDS (1982-2013)

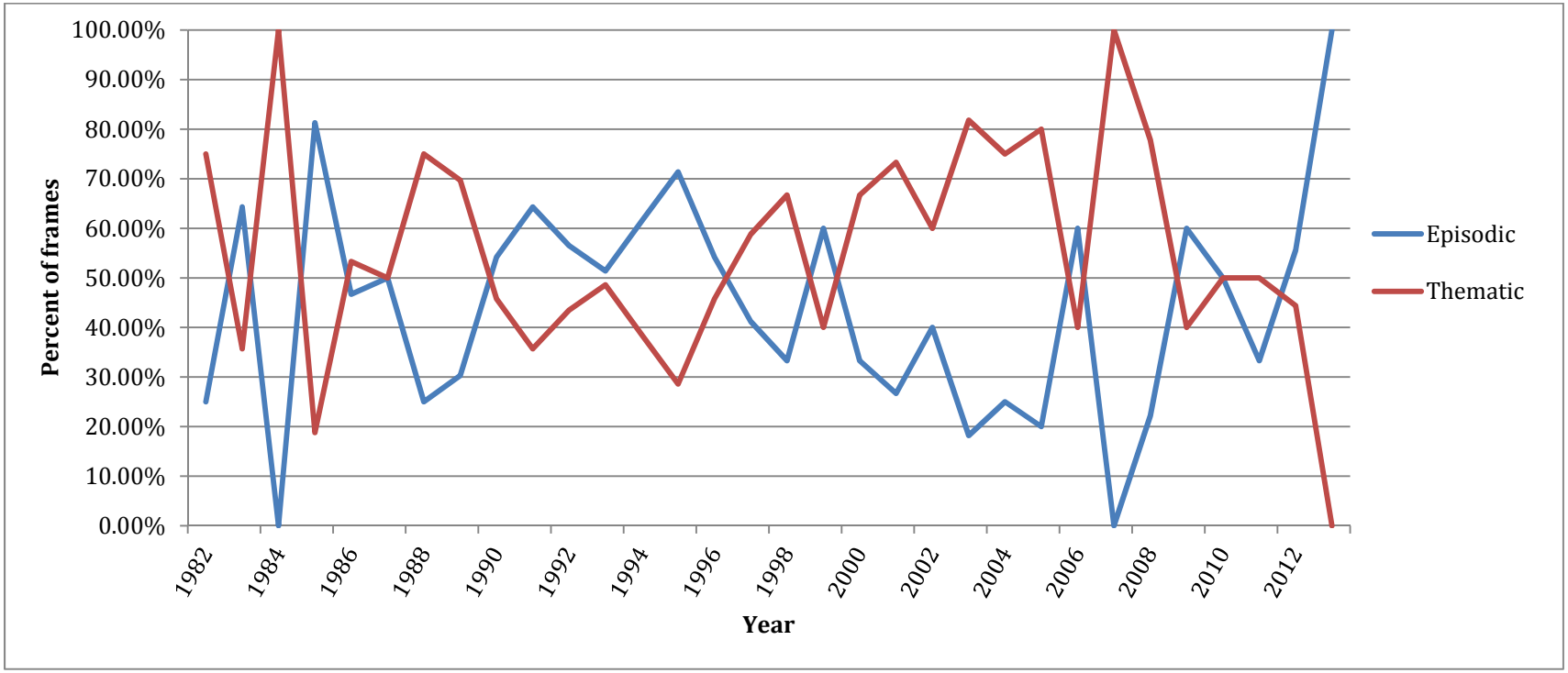
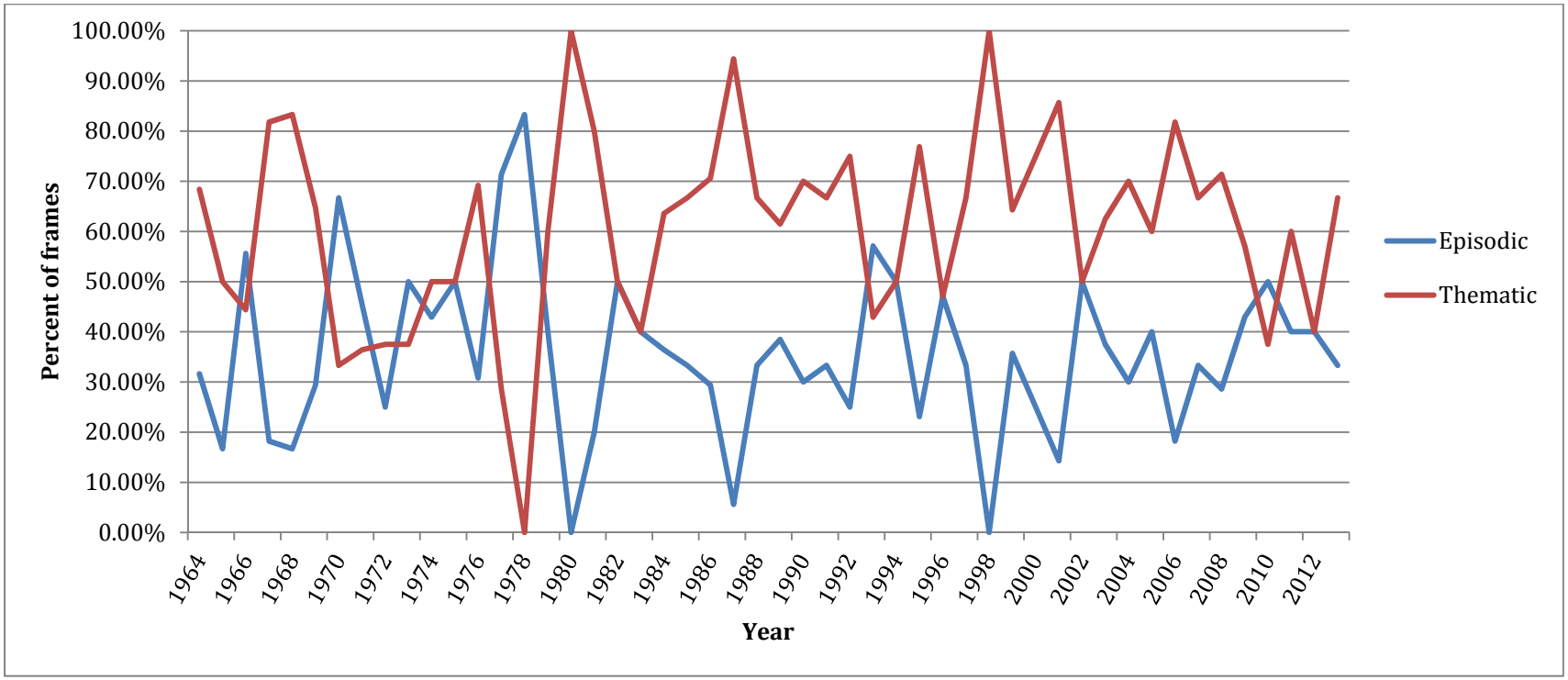


Figure 4. Time-series chart depicting percentages of episodic and thematic frames in news coverage of smoking (1964-2013)



As shown in Table 5, the three most common sources found in news coverage of HIV/AIDS were experts, government organizations, and laypeople. The three most common sources found in news coverage of smoking were experts, government organizations, and professional organizations. The following analyses determined which sources were most likely to predict certain frames.

Table 5. Percentages of sources in coverage of HIV/AIDS and smoking

Source	**HIV/AIDS**	**Smoking**
Activists	7.42%	2.51%
Business sources	3.51%	10.65%
Experts	38.76%	30.06%
Laypeople	30.10%	19.00%
Politicians	13.20%	18.79%
Organizations (government)	45.57%	52.19%
Organizations (non-profit)	22.68%	19.83%
Organizations (professional)	10.10%	34.23%
Legal sources	1.24%	4.59%
Other	12.16%	12.11%

Hosmer-Lemeshow goodness-of-fit tests were run to ensure the validity of the logistic regressions used to answer the following research questions. Thus, a model was considered acceptable if the results of the corresponding Hosmer-Lemeshow test produced a *p*-value of more than .05 (Hosmer & Lemeshow, 1980). The results of each regression's goodness-of-fit test are listed at the bottom of each corresponding table.

Logistic regression analyses were used to answer RQ1a, which asked what sources predict episodic and thematic frames in news coverage of HIV/AIDS. As presented in Table 6, as the number of laypeople ($\beta = 1.385$, $p = .001$) and "other"

sources (β = .525, p = .012) increased, so did the number of episodically framed article, while, as shown in Table 7, experts (β = .597, p = .001) and government organizations (β = .847, p = .001) used as sources were significantly associated with thematically framed stories. Therefore, laypeople and "other" sources were more likely to be found in episodically framed articles while experts and government organizations were more common in thematic news.

Table 6. Logistic regression of sources in episodic news coverage of HIV/AIDS

Source	**β**	***p****	**OR**	**95% CI**
Activists	.411	.294	1.509	.700-3.253
Business sources	-.149	.805	.861	.264-2.815
Experts	-.585	.001	.557	.413-.751
Laypeople	1.385	.001	3.995	2.732-5.842
Politicians	-.117	.640	.890	.546-1.450
Organizations (government)	-.833	.001	.435	.314-.601
Organizations (non-profit)	-.218	.308	.804	.528-1.223
Organizations (professional)	-.462	.102	.630	.362-1.096
Legal sources	.489	.393	1.630	.532-4.996
Other	.525	.012	1.690	1.124-2.542

Hosmer-Lemeshow test: $\chi 2$ (8) = 3.658, p = .887

Nagelkerke R-square: .368

* Significance determined at $p < .05$

Table 7. Logistic regression of sources in thematic news coverage of HIV/AIDS

Source	**β**	***p****	**OR**	**95% CI**
Activists	-.380	.334	.684	.317-1.477
Business sources	.157	.794	1.171	.359-3.812
Experts	.597	.001	1.817	1.348-2.450
Laypeople	-1.371	.001	.254	.174-.371
Politicians	.126	.612	1.135	.697-1.848
Organizations (government)	.847	.001	2.333	1.687-3.228
Organizations (non-profit)	.179	.401	1.196	.788-1.817
Organizations (professional)	.463	.102	1.588	.913-2.763
Legal sources	-.477	.405	.621	.202-1.905
Other	-.511	.014	.600	.399-.902

Hosmer-Lemeshow test: $\chi 2$ (8) = 5.648, p = .687

Nagelkerke R-square: .368

* Significance determined at $p < .05$

To answer RQ1b, which asked what sources predict episodic and thematic frames in news coverage of smoking, a logistic regression was also computed. As displayed in Table 8, as the number of laypeople ($\beta = 1.560$, $p = .001$) and "other" sources ($\beta = .640$, $p = .006$) increased, so did the number of episodically framed articles about smoking. Conversely, as shown in Table 9, thematic news about smoking was more likely to feature experts ($\beta = .540$, $p = .005$), government organizations ($\beta = .488$, $p = .001$), and professional organizations ($\beta = .456$, $p = .007$).

Table 8. Logistic regression of sources in episodic news coverage of smoking

Source	**β**	***p****	**OR**	**95% CI**
Activists	-.984	.205	.374	.081-1.714
Business sources	.451	.111	1.571	.902-2.735
Experts	-.535	.008	.586	.394-.871
Laypeople	1.560	.001	4.758	3.181-7.115
Politicians	-.054	.790	.948	.638-1.408
Organizations (government)	-.533	.001	.587	.430-.801
Organizations (non-profit)	-.412	.105	.662	.402-1.091
Organizations (professional)	-.527	.003	.590	.416-.838
Legal sources	.272	.510	1.312	.585-2.942
Other	.640	.006	1.896	1.200-2.997

Hosmer-Lemeshow test: $\chi 2$ (8) = 8.056, p = .428

Nagelkerke R-square: .325

* Significance determined at $p < .05$

Table 9. Logistic regression of sources in thematic news coverage of smoking

Source	**β**	***p****	**OR**	**95% CI**
Activists	.977	.202	2.658	591-11.949
Business sources	-.294	.293	.745	.431-1.289
Experts	.540	.005	1.716	1.176-2.502
Laypeople	-1.419	.001	.242	.163-.359
Politicians	.124	.524	1.132	.773-1.659
Organizations (government)	.488	.001	1.630	1.212-2.192
Organizations (non-profit)	.479	.051	1.615	.999-2.612
Organizations (professional)	.456	.007	1.577	1.132-2.197
Legal sources	-.128	.751	.880	. 400-1.936
Other	-.577	.012	.562	.359-.879

Hosmer-Lemeshow test: $\chi 2$ (8) = 7.913, p = .442

Nagelkerke R-square: .294

* Significance determined at $p < .05$

Logistic regression was used once again to answer RQ2a, which asked what sources predict gain and loss frames in news coverage of HIV/AIDS. As shown in Table 10, when experts ($\beta = .487$, $p = .003$) and non-profit organizations ($\beta = .469$, $p = .035$) were sources, news about HIV/AIDS was more likely to feature gain frames. And, as depicted in Table 11, as the number of laypeople ($\beta = .427$, $p = .007$) increased, so did the number of loss-framed articles.

Table 10. Logistic regression of sources in gain-framed news coverage of HIV/AIDS

Source	**β**	***p****	**OR**	**95% CI**
Activists	.403	.359	1.496	.632-3.542
Business sources	.493	.416	1.637	.500-5.361
Laypeople	-.158	.447	.854	.569-1.283
Experts	.487	.003	1.627	1.186-2.230
Politicians	.085	.756	1.089	.635-1.868
Organizations (government)	-.022	.906	.979	.683-1.402
Organizations (non-profit)	.469	.035	1.598	1.033-2.472
Organizations (professional)	.048	.868	1.049	.596-1.846
Legal sources	-17.630	.999	.000	.000-.000
Other	.110	.650	1.117	.694-1.798

Hosmer-Lemeshow test: $\chi 2$ (8) = 9.653, p = .290

Nagelkerke R-square: .065

* Significance determined at $p < .05$

Table 11. Logistic regression of sources in loss-framed news coverage of HIV/AIDS

Source	**β**	***p****	**OR**	**95% CI**
Activists	-.736	.177	.479	.164-1.396
Business sources	.249	.659	1.283	.424-3.879
Laypeople	.427	.007	1.533	1.123-2.094
Experts	.249	.080	1.283	.971-1.694
Politicians	-.253	.336	.776	.463-1.300
Organizations (government)	.269	.087	1.309	.961-1.782
Organizations (non-profit)	-.385	.103	.680	.428-1.082
Organizations (professional)	.032	.902	1.032	.626-1.701
Legal sources	-.568	.520	.567	.100-3.196
Other	.023	.919	1.023	.661-1.583

Hosmer-Lemeshow test: $\chi 2$ (8) = 8.916, p = .349

Nagelkerke R-square: .060

* Significance determined at $p < .05$

While a logistic regression was run to answer RQ2b, which asked what sources predict gain and loss frames in news coverage of smoking, a Hosmer-Lemeshow goodness-of-fit test established that the model predicting loss-framed news to be significantly different from the observed outcome ($\chi 2$ (8) = 19.020, p = .015), and therefore, rendered the loss framing analysis of smoking news statistically insignificant (for more information, please refer to Table 13). However, as shown in Table 12, the regression analysis for gain-framed news of smoking found that such coverage was positively associated with experts (β = .528, p = .020) and laypeople (β = .539, p = .015).

Table 12. Logistic regression of sources in gain-framed news coverage of smoking

Source	**β**	***p****	**OR**	**95% CI**
Activists	-.381	.703	.683	.096-4.841
Business sources	-.237	.652	.789	.282-2.209
Experts	.528	.020	1.696	1.085-2.650
Laypeople	.539	.015	1.715	1.112-2.645
Politicians	-.449	.230	.639	.307-1.327
Organizations (government)	-.076	.729	.927	.605-1.422
Organizations (non-profit)	.257	.346	1.293	.758-2.204
Organizations (professional)	-.231	.398	.794	.465-1.356
Legal sources	.387	.405	1.472	.592-3.660
Other	-1.764	.072	.171	.025-1.173

Hosmer-Lemeshow test: $\chi 2$ (8) = 13.169, p = .106

Nagelkerke R-square: .116

* Significance determined at $p < .05$

Table 13. Logistic regression of sources in loss-framed news coverage of smoking

Source	**β**	***p****	**OR**	**95% CI**
Activists	.946	.075	2.575	.909-7.292
Business sources	-.740	.018	.477	.258-.883
Experts	.290	.061	1.336	.987-1.810
Laypeople	-.168	.310	.845	.610-1.170
Politicians	-.542	.004	.582	.400-.845
Organizations (government)	.097	.467	1.102	.849-1.431
Organizations (non-profit)	-.029	.880	.971	.663-1.423
Organizations (professional)	-.225	.135	.798	.594-1.072
Legal sources	-.186	.612	.830	.404-1.704
Other	-.320	.166	.726	.461-1.142

Hosmer-Lemeshow test: $\chi 2$ (8) = 19.020, p = .015

Nagelkerke R-square: .086

* Significance determined at $p < .05$

As with the previous research questions, logistic regression was used to answer RQ3a, which asked what sources predict involuntary risk and knowingly created risk frames in news coverage of HIV/AIDS. None of the sources were significantly associated with involuntary risk framed coverage (for more information, please refer to Table 14). However, as shown in Table 15, laypeople (β = .644, p = .001) and government organizations (β = .380, p = .022) were significant predictors of knowingly created risk frames.

Table 14. Logistic regression of sources in involuntary risk framed news coverage of HIV/AIDS

Source	**β**	***p****	**OR**	**95% CI**
Activists	-.459	.536	.632	.148-2.706
Business sources	-18.881	.998	.000	.000-.000
Experts	.245	.202	1.277	.877-1.861
Laypeople	.353	.096	1.423	.939-2.158
Politicians	-.828	.123	.437	.153-1.250
Organizations (government)	.108	.624	1.114	.725-1.711
Organizations (non-profit)	-.509	.165	.601	.293-1.232
Organizations (professional)	-.398	.387	.671	.272-1.655
Legal sources	-17.893	.999	.000	.000-.000
Other	-.467	.290	.627	.264-1.489

Hosmer-Lemeshow test: $\chi 2$ (8) = 4.169, p = .842

Nagelkerke R-square: .083

* Significance determined at $p < .05$

Table 15. Logistic regression of sources in knowingly created risk framed news coverage of HIV/AIDS

Source	**β**	***p****	**OR**	**95% CI**
Activists	-1.008	.106	.365	.108-1.239
Business sources	.927	.095	2.526	.852-7.485
Experts	.135	.380	1.144	.847-1.545
Laypeople	.644	.001	1.904	1.383-2.622
Politicians	-.131	.623	.877	.521-1.477
Organizations (government)	.380	.022	1.463	1.055-2.027
Organizations (non-profit)	-.010	.964	.990	.635-1.543
Organizations (professional)	-.408	.202	.665	.355-1.245
Legal sources	.705	.185	2.024	.713-5.746
Other	-.302	.261	.740	.437-1.251

Hosmer-Lemeshow test: $\chi 2$ (8) = 11.805, p= .160

Nagelkerke R-square: .092

* Significance determined at $p < .05$

To answer RQ3b, which asked what sources predict involuntary risk and knowingly created risk frames in news coverage of smoking, logistic regressions determined that when the number of expert sources (β = .714, p = .022) increases, so does involuntary risk framed coverage, as shown in Table 16. Although no sources predicted a rise in knowingly created risk frames, when the number of politicians (β = -.640, p = .002) and professional organizations (β = -.509, p = .001) increased, the likelihood of news featuring knowingly created risk frames decreased, as depicted in Table 17.

Table 16. Logistic regression of sources in involuntary risk framed news coverage of smoking

Source	**β**	***p****	**OR**	**95% CI**
Activists	-18.138	.999	.000	.000-.000
Business sources	.761	.097	2.140	.871-5.260
Experts	.714	.022	2.041	1.107-3.763
Laypeople	.180	.600	1.198	.610-2.351
Politicians	.033	.931	1.033	.491-2.173
Organizations (government)	.075	.799	1.078	.605-1.919
Organizations (non-profit)	-.782	.173	.457	.148-1.410
Organizations (professional)	.101	.755	1.106	.587-2.086
Legal sources	-17.493	.998	.000	.000-.000
Other	-.010	.982	.990	.393-2.491

Hosmer-Lemeshow test: $\chi 2$ (8) = 4.867, p = .772

Nagelkerke R-square: .072

* Significance determined at $p < .05$

Table 17. Logistic regression of sources in knowingly created risk framed news coverage of smoking

Source	**β**	***p****	**OR**	**95% CI**
Activists	-.301	.647	.740	.204-2.685
Business sources	-.559	.068	.572	.314-1.042
Experts	.251	.113	1.285	.942-1.752
Laypeople	.277	.089	1.319	.959-1.814
Politicians	-.640	.002	.527	.352-.790
Organizations (government)	-.114	.403	.893	.684-1.165
Organizations (non-profit)	-.211	.301	.810	.544-1.207
Organizations (professional)	-.509	.001	.601	.440-.821
Legal sources	.117	.742	1.124	.560-2.258
Other	-.259	.273	.772	.485-1.227

Hosmer-Lemeshow test: $\chi 2$ (8) = 14.936, p = .060

Nagelkerke R-square: .133

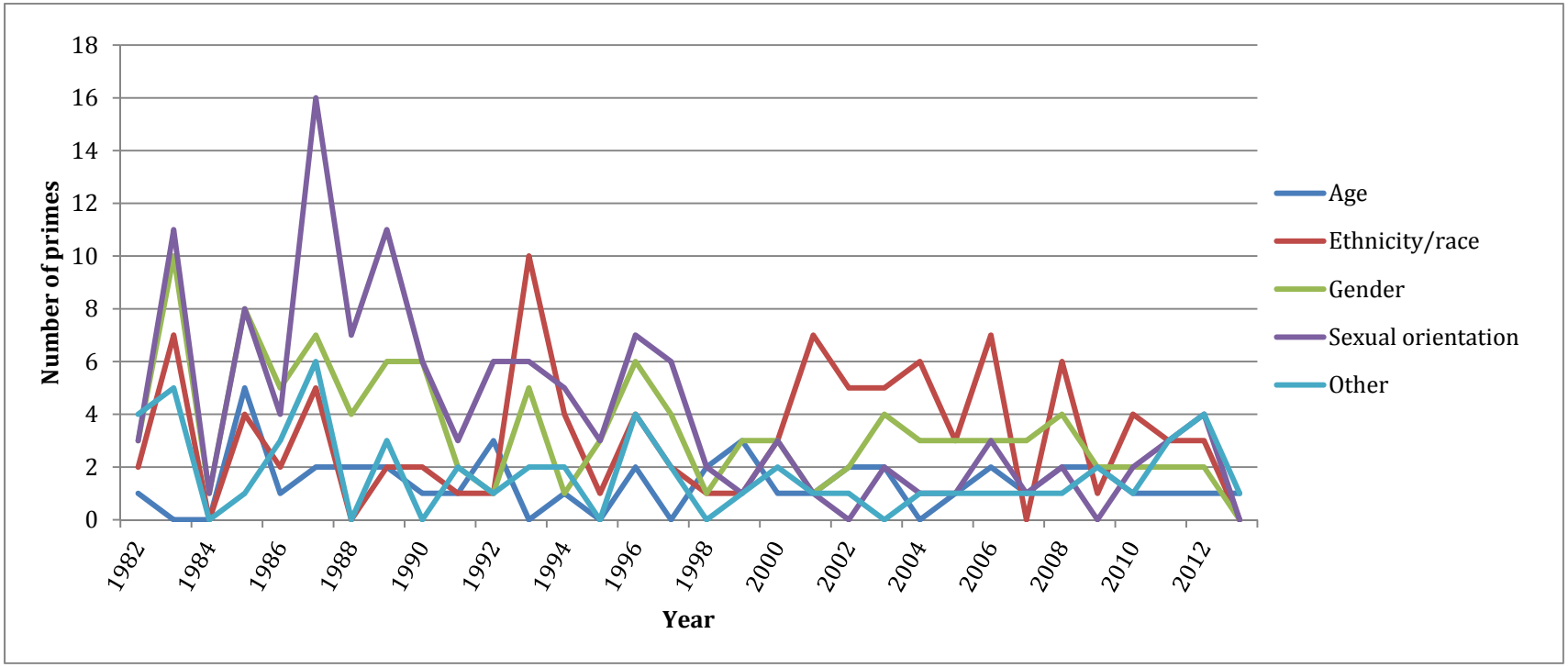
* Significance determined at $p < .05$

Through analyzing stereotype priming in coverage, the data revealed 385 cases of stereotypes mentioned in HIV/AIDS news and 149 cases in smoking news. RQ4a asked what the trends are of stereotype priming in news coverage of HIV/AIDS over the course of 32 years. Overall, sexual orientation (*N* = 26.6%) was the most frequently mentioned stereotype followed by gender (*N* = 22.7%), ethnicity/race (21.0%), "other" stereotypes (*N* = 11.5%), and age (*N* = 9.1%). As shown in Figure 5, the gender stereotype most frequently appeared in 1983, while the age stereotype was present the most in 1985, sexual orientation in 1987, followed by ethnicity/race in 1993, and "other" stereotypes in 1996. In the United States, gay and bisexual men account for 54% of the estimated AIDS diagnoses; they also comprise 67% of HIV infections (Centers for Disease Control and Prevention, n.d.-c, n.d.-d). Based on these statistics, the media did not prime audiences with an exaggerated association between HIV/AIDS and homosexual men, as both the gender and sexual orientation stereotypes—the two most frequent stereotypes in HIV/AIDS news—appeared in fewer than 54% of the articles.

In relation to ethnicity/race, it is possible to determine whether the media exaggerated stereotypes here simply by examining HIV/AIDS statistics related to the most affected ethnicity/race: African Americans. As stated previously, although they make up 12% of the U.S. population, African Americans account for 44% of HIV diagnoses in the United States (Centers for Disease Control and Prevention, n.d.-b). And, internationally speaking, 70% of all HIV-infected individuals live in sub-Sahara Africa (Avert, n.d.-a). Because the ethnicity/race stereotype appeared in 21% of HIV/AIDS coverage, the media did not prime readers with this stereotype.

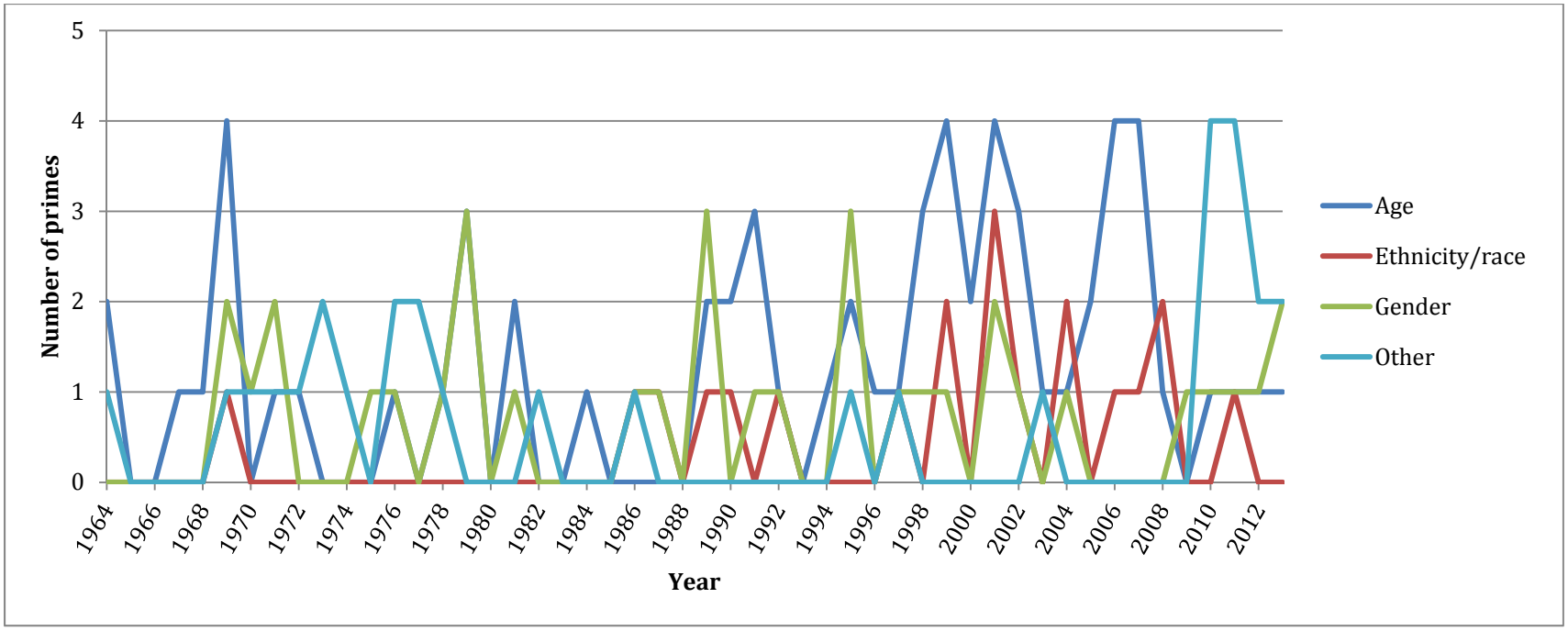
The age group with the highest rate of HIV infections is 20-29, at 36% (Centers for Disease Control and Prevention, n.d.-d); however, only 9.1% of articles featured the age stereotype. Thus, no priming was dectected.

Figure 5. Time-series chart depicting the number of stereotype primes in news coverage of HIV/AIDS (1982-2013)



RQ4b asked what the trends are of stereotype priming in news coverage of smoking over the course of 50 years. As shown in Figure 6, stereotypes were not nearly as frequent in articles about smoking as they were in HIV/AIDS-related news and none of them were overwhelmingly dominant during specific years. In fact, no stereotypes were found in smoking news from 1965, 1983, 1985, 1988, and 1993. Overall, the most common stereotype present was age (13.4%), followed by gender (7.3%), "other" stereotypes (6.3%), and ethnicity/race (4.2%); none of the articles mentioned sexual orientation. According to the CDC, 7.4% of middle school students and 25.3% of high school students use tobacco products (Centers for Disease Control and Prevention, n.d.-h). Although only 4.2% of the articles featured a stereotype related to ethnicity/race, 29.2% of American Indians/Alaska Natives (i.e., one of the ethnicities/races that are most prone to smoking) are smokers (Centers for Disease Control and Prevention, n.d.-a). While 14.8% of women and 18.8% of men smoke, less than 10% of the coverage featured a gender stereotype. Moreover, despite the fact that the sexual orientation stereotype was not present in any of the coverage, 23.9% of lesbian/gay/bisexual adults are smokers (Centers for Disease Control and Prevention, n.d.-a). Therefore, these statistical comparisons confirm that the media did not prime audiences with stereotypes in news about smoking.

Figure 6. Time-series chart depicting the number of stereotype primes in news coverage of smoking (1964-2013)



Chapter 8: Study 2—Agenda-Setting Results

For the agenda-setting analysis of HIV/AIDS, 318 newspaper articles were collected for the sample and six polls were selected: one from 1987, 1991, 1997, 2002, 2011, and 2012. As discussed previously, polls were chosen based on relevancy. Therefore, each of the six polls asked respondents whether they attributed the contraction of HIV/AIDS to individual blame. For more information about these polls, please refer to Table 18.

For the smoking analysis, 281 newspaper articles comprised the sample. Moreover, eight polls, one from each of the following years, were selected: 1977, 1987, 1988, 1990, 1991, 1993, 1994, and 2004. Each of the polls related to smoking asked respondents whether they favor allowing individuals to make their own risk-benefit decisions or if they favor complete bans on smoking in all public places. For more polling information, please refer to Table 19.

Table 18. Percent of poll respondents per year that attributed the contraction of HIV/AIDS to individual blame

Year	Percent agree
1987	51%
1991	33%
1997	40%
2002	40%
2011	29%
2012	32%

Table 19. Percent of poll respondents per year that supported a public smoking ban

Year	Percent agree
1977	22%
1987	55%
1988	60%
1990	51%
1991	44%
1993	64%
1994	67%
2004	58%

The following analyses utilized interval data. For this agenda-setting study, all the variables were originally coded dichotomously as being (0) not present or (1) present. However, the variables were converted into interval data upon counting the number of times per polling year that each variable was present. For example, there was a poll about HIV/AIDS in 1987. A month's worth of newspaper coverage was collected up until the date that the poll was administered. Each article in the sample for that month was coded as either (1) mentioning any gender stereotype or (0) not mentioning any gender stereotype. After each article was coded in this fashion, the number of articles coded as (1) were tallied to determine how many times the gender stereotype was present during that specific polling season. Thus, the data for this second study was collapsed via counting the number of articles per year that each: (1) frame combination was present, (2) source was present, and (3) stereotype was present. As stated earlier, stereotyping included the mention of any age, ethnicity/race, gender, or sexual orientation.

H2a proposed there would be a significant correlation between the public attributing the contraction of HIV/AIDS to individual blame and episodic/loss frames in news coverage of HIV/AIDS. As demonstrated in Table 18, a Pearson's correlation found a significant relationship between public opinion and episodic/loss frames (r = .881, p = .021). Therefore, H2a was supported.

H2b hypothesized there would be a significant correlation between public support for a smoking ban and thematic/loss frames in news coverage of smoking. As shown in Table 19, a Pearson's correlation analysis determined that there was in fact an association between public opinion and thematic/loss frames (r = .864, p = .041). Therefore, H2b was also supported.

Pearson's correlations were used again for the final two research questions (i.e., RQ5a and RQ5b). Due to the number of independent tests (e.g., a separate correlation was performed for each of the 10 source variables), it was necessary to compute a Bonferroni correction for the sources and stereotypes analyses in this portion of the study. When a set of data is analyzed via multiple tests, "the more statistical tests one performs the more likely one is to reject the null hypothesis when it is true" (Abdi, 2010, pp. 574–575). This leads to an inflated alpha level. In order to render the alpha level more conservative, it is necessary to divide .05 (i.e., the original *p*-value cutoff) by the number of tests conducted. Using this correction method, new alpha levels were computed for both the source and stereotype analyses.

RQ5a asked what sources and stereotypes present in news coverage of HIV/AIDS significantly correlate with the public attributing the contraction of HIV/AIDS to individual blame. As depicted in Table 20, Pearson's correlations found significant relationships between public opinion and laypeople used as sources (r = .952, p = .003) as well as the ethnicity/race (r = .937, p = .006) and gender (r = .947, p = .004) stereotypes.

RQ5b asked what sources and stereotypes present in news coverage of smoking significantly correlate with public support for a smoking ban. As shown in Table 21, Pearson's correlations found that no sources or stereotypes have significant relationships with public opinion.

Table 20. Pearson's correlations between public opinion attributing the contraction of HIV/AIDS to individual blame and frames, sources, and stereotypes in news coverage of HIV/AIDS

	r	*p*
Frames*		
Episodic/loss	.881	.021
Thematic/loss	.783	.065
Sources†		
Activists	.873	.023
Business sources	.872	.023
Experts	.883	.020
Laypeople	.952	.003
Politicians	.825	.043
Legal sources	.449	.371
Organizations (government)	.866	.026
Organizations (non-profit)	.850	.032
Organizations (professional)	.794	.059
Other	.826	.043
Stereotypes‡		
Age	.809	.051
Ethnicity/race	.937	.006
Gender	.947	.004
Sexual orientation	.871	.024
Other	.835	.039

* Significance determined at $p < .05$
† Significance determined at $p < .005$
‡ Significance determined at $p < .01$

Table 21. Pearson's correlations between public support for a smoking ban and frames, sources, and stereotypes in news coverage of smoking

	r	*p*
Frames*		
Episodic/loss	.252	.546
Thematic/loss	.864	.041
Sources†		
Activists	-.726	.041
Business sources	.673	.067
Experts	.505	.202
Laypeople	.362	.378
Politicians	.628	.095
Legal sources	.300	.471
Organizations (government)	.585	.128
Organizations (non-profit)	.641	.087
Organizations (professional)	.233	.578
Other	-.666	.071
Stereotypes‡		
Age	.597	.118
Ethnicity/race	.430	.287
Gender	.276	.508
Other	.122	.773

* Significance determined at $p < .05$
† Significance determined at $p < .005$
‡ Significance determined at $p < .0125$

DISCUSSION AND CONCLUSION

Chapter 9: Changes Through the Ages

DISCUSSION OF OVERALL FINDINGS

Framing patterns (or lack thereof)

Interestingly, there were disproportionately more articles about HIV/AIDS than smoking. Considering there were only 32 years of data related to HIV/AIDS compared to 50 years of smoking, it is intriguing that a little more than 50% of the sample were articles about HIV/AIDS. This is most likely due to the widespread hysteria associated with the medical conditions. Although smoking is an important issue, there was a dire urgency associated with HIV/AIDS; HIV was spreading quickly, there was no cure, and it resulted in the death of thousands during the course of a decade. HIV/AIDS inundating the news is most likely the result of dread risk, which is "the extent of perceived catastrophic potential, threat to life, and lack of control" (Finucane, Slovic, & Mertz, 2000, p. 1021). Dread risk tends to elicit emotional reactions from the public, who in turn overestimates the likelihood of contracting a virus, such as HIV.

The results of this study have also concluded that, when analyzing the evolution of frames over a long period of time, there is no distinct pattern of coverage starting out as episodic and gradually becoming thematic; episodic and thematic framing fluctuates in accordance with the topic of the story. This conclusion is validated by the fact that two topics were independently analyzed and produced the same results. While the common perception is that episodic news tends to dominate health news, this notion is based on research examining shorter

periods of time rather than half a century of coverage (e.g., Dimitrova, 2006; Kim & Willis, 2007; Nacos & Torres-Reyna, 2007).

As stated earlier, there does not seem to be preexisting scholarship that examined episodic and thematic frame changes over the course of decades. Although other studies have found that a gradual transformation from episodic to thematic coverage is present when analyzing a shorter period or increments of time (such as a year or a few years), the frame changes are probably not due to journalists consciously making the decision to report with specific frames in mind; it is more likely that journalists are writing their stories based on the innate nature of the subject matter. For example, if a celebrity died of AIDS-related complications, then a story about this incident would be intrinsically episodic, as the central point is about an individual. Conversely, the government releasing statistics and studies about smoking is inherently thematic, as such topics provide more generalizable context about the issue at hand. Therefore, this study found that when examining an issue on a very large longitudinal scale, there is no systematic progression of episodic and thematic frames found in the coverage because the issue is constantly evolving over the course of years.

If a story lends itself to episodic framing, journalists will write about it that way. This is clear when examining the frame patterns of this study in conjunction with the comprehensive timelines found in the literature review. For example, when celebrities such as Rock Hudson died, coverage about HIV/AIDS was primarily episodic; but when new drugs or studies were released, the news was primarily thematic. Therefore, public health officials and scholars that urge journalists to balance frames more carefully need to understand that historically, reporters have appropriately framed stories based on the inherent nature of the topic and will most

likely continue to do so. Moreover, when there is a lack of breaking news that triggers certain frames, the remainder of coverage is predominantly thematic.

The smoking analysis is a good example of how a general medical topic is not always episodic in a larger context. For a half-century, smoking was innately a thematic issue. Unlike articles about HIV/AIDS, which typically focused on the death of individuals, the majority of smoking-related stories were about new reports and studies on the dangers of cigarettes as well as government regulation of tobacco products. Thus, the story topic is what primarily drove the framing of the coverage. When smoking first became a salient issue in the media, it was predominantly thematic because an abundance of research was being released about the dangers of smoking while officials were constantly urging smokers to quit by citing the terminal consequences; in short, the results of this study indicate that news about official reports and research tends to be thematic. While HIV/AIDS news was much more likely to be episodic because it focused on individuals (e.g., Arthur Ashe and Rock Hudson) who contracted or died from complications linked to the virus/syndrome, approximately three decades of smoking coverage was overwhelming thematic. This is because the media heavily focused on the government issuing constant warnings as well as researchers producing new studies that further linked smoking to an array of deadly diseases. Issues related to smoking were frequently debated and dealt with on a national level, as the government was constantly tightening regulations on tobacco products. This was later followed by national lawsuits and a steady flow of public bans. Taking this into consideration, the media "framed" this topic as a national war on smoking—evidently leaning toward thematic coverage. And unlike HIV/AIDS, it took years—sometimes decades—to see the imminent effects of smoking.

When it came to HIV/AIDS, episodic articles dominated the news from 1990 through 1996. Many of these stories were primarily about specific individuals who had died of AIDS-related complications. This news also featured prominent public figures, such as athletes like Arthur Ashe and Magic Johnson, disclosing their HIV or AIDS diagnosis. After 1996, there was far less episodic news, as 1996 marked the year that highly active antiretroviral therapy (also known as "HAART") became the new standard for treating HIV and proved to be exceptionally effective. Although HIV/AIDS garnered much episodic coverage at its peak, once HAART was released and the number of deaths decreased, the news became more thematic in nature. Many of the thematic articles about HIV/AIDS that were published focused on advancements in treatment, total death counts, and stern warnings about risky behavior. This observation emerged inductively from closely reading the data.

How sources influence frames

Although the nature of events primarily dictated an article's dominant frame, sources also played a role. Therefore, if journalists want their articles to be framed in a particular manner, they can use the following findings to determine which sources are most likely to elicit specific frames. "Official" sources, such as experts and government organizations, were significant predictors of thematic framing in both HIV/AIDS and smoking news. Such sources usually provide big picture perspectives on an issue, as they are usually heavily involved in research to better understand public health issues and to solve problems related to them. For example, it is no surprise that government officials were heavily present in coverage about smoking because the U.S. surgeon general was quite vocal about the issue, which in

turn prompted officials to take a stance against public smoking while also confronting tobacco companies.

Authoritative sources, many of which are considered experts in their particular fields, can probably offer explanations for trends and national issues related to public health. Moreover, experts are constantly developing new medicine and technology, most of which are intended to help the public at large. Therefore, such individuals would not just be the focus of many thematic articles, but used as sources in them as well. It is interesting to note that professional organizations were also significantly related to thematic news about smoking. This is probably because of statements provided by institutes like the American Medical Association.

Experts were also significantly associated with gain-framed news of HIV/AIDS and smoking and involuntary risk framed news of smoking. Because such sources are constantly trying to improve public health issues, they are able to provide information about actions that result in successful behavior changes. Moreover, previous research has determined that "in a pandemic, it is reasonable for communication from public health agencies to focus on gain frames, despite the obvious loss through fatalities and other negative impacts on individuals and communities, to manage public anxieties" (S. T. Lee & Basnyat, 2013, p. 121). Moreover, such sources were also associated with involuntary risk framed news of smoking by frequently discussing the dangers of secondhand smoke.

Laypeople were significantly associated with episodic news related to both HIV/AIDS and smoking. Such sources were used for anecdotal ledes as well as stories that focused on a particular individual. Many lay sources were also associated with specific or localized events (for example, residents of a town where someone died of AIDS-related complications or a new, local facility opening up for

patients). Articles quoting laypeople also concerned personal loss or deaths of acquaintances, friends, and relatives, hence, why lay sources were also significantly associated with loss frames and knowingly created risk frames in HIV/AIDS news. However, laypeople also had a positive relationship with gain-framed news of smoking. Such news focused on overcoming addiction and finding new ways to quit. For example, one such episodic story featured individuals who used lollipops to overcome their oral fixations related to smoking cigarettes.

Generally speaking, the results of these source analyses can help journalists learn how certain sources may affect their stories. For example, laypeople evoke a humanistic angle in news coverage and therefore, drive human interest and a touch of realism, which in turn makes stories that one may not read otherwise more interesting and relatable. And, these sources tend to produce stories that are episodic in nature. Conversely, journalists should rely on experts, such as academics, doctors, and government officials, if they want to increase thematic coverage. Because the use of activists, business people, and politicians have little effect on frames, the news media can use them as they see fit, because such sources on their own do not seem to drive framing in any particular direction. In short, journalists should attempt to balance their use of sources in order to equalize the framing of news coverage. Stories primarily about research lack the human angle, therefore, it is beneficial to quote laypeople in related articles. Alternatively, official sources, such as experts and government officials, may help to balance stories that are about specific individuals.

It is important to note that journalists are routinely criticized for relying heavily on official and government sources (Carlson, 2009; Gans, 1979; Hodgetts et al., 2008); however, such sources are crucial in order to add thematic context to

medical issues, such as those related to HIV/AIDS and smoking. Perhaps with other topics in the news, such as politics, depending on official sources is detrimental; but when it comes to health, official sources provide much of the context that is lacking otherwise.

Stereotype priming in the media

The results of the stereotype priming analysis revealed that when coverage is compared to specific population statistics, the media do not perpetuate stereotypes related to age, ethnicity/race, gender, or sexual orientation in coverage of HIV/AIDS or smoking. Nevertheless, while news about smoking did not feature many occurrences of stereotype priming, HIV/AIDS news did by comparison. Sexual orientation, which includes homosexuals, was overwhelmingly the most mentioned stereotype, as it was present in more than 25% of the HIV/AIDS articles in the sample. As stated earlier, however, the CDC estimated that gay and bisexual men account for 67% of HIV infections as well as 54% of AIDS diagnoses (Centers for Disease Control and Prevention, n.d.-c, n.d.-d). Mentions of any gender and ethnicity/race were also fairly frequent, appearing in more than 20% of the coverage. And, as determined by the agenda-setting study, both of these stereotypes covaried with newspaper coverage; as the number of these stereotypes in the news increased, so did public agreement about individuals with HIV/AIDS being at fault for their condition.

This is not that surprising, given that the medical community initially established that homosexual men were at high risk of contracting HIV and developing AIDS; therefore, gender and sexuality associated with HIV/AIDS became a recurrent theme for some time. As found in the data from the framing analysis in

the first study of this dissertation and as noted in the comprehensive timeline of HIV/AIDS, it was not until 1998 that the media linking gender and sexual orientation to HIV/AIDS began to fade. For example, 40% of the coverage in 1987 featured the sexual orientation stereotype compared to approximately 13% in 1998. Just a couple of years prior, HIV changed from being a terminal diagnosis to a chronic condition with the success of HAART. Nevertheless, the ethnicity/race as well as gender stereotype primes remained present in the coverage, especially in the 2000s, when HIV/AIDS once again became an issue—this time, for being the leading cause of death in Africa. While journalists have tapered off mentioning sexual orientation in HIV/AIDS news to some extent, moving from that stereotype prime to the ethnicity/race stereotype prime only changes *who* is associated with the condition. Hence, HIV/AIDS is now associated with being an African rather than a gay problem. This association is realistic because, as stated earlier, 70% of all current HIV cases are from sub-Sahara Africa (Avert, n.d.-a).

Although the occurrence of stereotype priming was not as frequent in smoking news, such coverage featured far more stories that mentioned age, especially from the 1990s onward. This can be attributed to the growing campaigns and initiatives during this time that attempted to encourage minors to refrain from smoking and drug use. Moreover, by the mid 2000s, e-cigarettes began to rise in popularity as well, which also enticed more young people to start smoking.

Interestingly, the results of the agenda-setting study found that stereotypes as well as sources did nothing to persuade public opinion about smoking. However, an increase in the ethnicity/race and gender stereotypes as well as lay sources increased public agreement about an HIV/AIDS diagnosis being the individual's fault. This is most likely because smoking is still common among the population at

large while, as stated previously, HIV/AIDS is usually associated with specific types of people.

Agenda-setting effects of frame combinations and stereotype priming

While stereotypes and sources had little effect on public attitude, frame combinations were more influential. Because most news reports are composed of several frames, this study portrays the world more realistically than research examining the effects of isolated frames on public attitude. As originally hypothesized, episodic/loss combinations correlated with an increase in individual blame, while the presence of thematic/loss frames correlated with an increase in societal attribution of responsibility. Thus, journalists can effectively use a combination of thematic/loss frames in their stories to encourage the public to move away from blaming individuals.

Although existing literature has examined these frame relationships within the construct of experimental design, this study was based on real-world data. And, unlike in an experiment, there are many factors that cannot be controlled for in the real world (Coleman & Wu, 2015). Hence, this study compliments previous framing research that examines the interplay of episodic/loss and thematic/loss frames in medical news. The results of this study verified experimental research that concluded pairing thematic and loss frames affects public opinions. However, unlike previous research, this study also found that episodic/loss frame combinations also affect attitudes. These results are important in light of the fact that combined frames are known to have an impact on framing effects. As noted by preexisting research, it is useful for journalists to combine thematic frames and loss frames in their articles, as this combination "is highly effective in helping people understand the role of

social determinants that lead to health problems and the factors beyond the individual's control—government and other institutions—that cause health problems" (Hatley Major, 2009, p. 184).

LIMITATIONS AND FUTURE RESEARCH

The primary limitation of this dissertation is that only two survey questions were used to measure public opinion; one for HIV/AIDS and one for smoking. Thus, polls need to begin incorporating additional pertinent questions about public opinion of HIV/AIDS and smoking, and these questions need to be asked more frequently. Researchers may also find ways to conduct their own polls or examine a greater sample of polls; perhaps by examining different frames suited to questions that are more commonly asked of polling respondents.

Moreover, while this study analyzed a large data set, due to availability, it only examined the content of two national newspapers. Future studies can find a way to collect data from a broader range of media outlets, including national and international sources, as well as online and social media. Scholars may also examine whether they obtain similar results from broadcast news.

A qualitative observation of the results found that when celebrities were involved in an article or appeared in the subject of a story, episodic coverage seemed to spike. Although celebrity mentions in news coverage was not coded, it is certainly an option worth exploring in future studies. A similar observation was made in relation to AZT and HAART—when new breakthroughs in treatment became available to the public, thematic news increased. Therefore, follow-up studies should create variables to reflect mentions of celebrities as well as treatments to see if such factors actually play a role in the framing of HIV/AIDS, or if

episodic events predict episodic coverage. These studies may also choose to examine an issue during certain periods to determine whether episodic and thematic frames are directly related to the ebbs and flows of the public caring about the issue at hand.

Regarding public attitudes, combined frames produced stronger audience effects in this study than in previous experimental research. It is possible that an uncontrolled variable is causing these frames to illicit stronger effects in the real world than in an artificial one. However, it is difficult to determine what that variable is (or those variables are) based on this particular study. While experiments utilize controlled settings, people are exposed to numerous elements in real life. Perhaps this hypothetical variable is reading the news in combination with exposure to advertisements, or even communication with people who have HIV or AIDS. Researching a range of variables in conjunction with public opinion about medical news is another avenue that scholars can explore as a follow up to this study.

Academics building off this research may also choose to examine more than just two specific topics. As this study only analyzed news coverage of HIV/AIDS and smoking, future studies may compare a range of issues, or even sample from all health-related articles in a given period. Conversely, there is the option of choosing an ailment that has been an issue for years versus more current issues, such as the Ebola and Zika virus epidemics and vaccination debate. In keeping with coverage about smoking, academics may also use the constructs of this study to analyze news about e-cigarettes. Repercussions of smoking tobacco have an evident diagnosis—but the effects of e-cigarettes on health still instigate a heated debate, which may yield interesting coverage to analyze.

CONCLUSION

Within the theoretical frameworks of framing and agenda setting, this dissertation examined the trends in news coverage of HIV/AIDS and smoking. This paper—which includes the first major longitudinal study to examine episodic and thematic frame changes in medical news—found that when looking at the big picture, framing patterns are erratic. By longitudinally examining framing trends, this study also determined that journalists are not necessarily consciously choosing how to frame their stories, contrary to what some scholars and public health officials claim. Rather, stories are framed based on whether the topic is inherently episodic or thematic, and this is why no specific framing patterns were detected.

Although this study focuses on news related to HIV/AIDS and smoking, the results can help to predict how other health topics may change over time in relation to media reportage and public opinion. If a medical issue is examined over the course of many years, it will likely showcase fluctuations in frame changes rather than a gradual transformation from being episodic to thematic. While the common perception is that episodic news tends to dominate medical news, this notion is based on research examining short periods of time rather than half or even a quarter of a century of coverage.

The results of this dissertation also determined that lay sources and "official" sources, such as experts, were the most commonly found sources in HIV/AIDS and smoking news. While lay sources influenced episodic news, official sources were more likely to prompt thematic as well as gain coverage. Using this information, journalists can incorporate official sources to steer coverage in a thematic and/or gain direction. Lay sources lead to a more episodic angle. Thus, the vilifying of

official sources is out of line when it comes to medical news, as such sources are required to put health issues into context.

Although sources influenced article frames, they had little effect on public opinion. The same notion held true for stereotype primes. Only lay sources and the ethnicity/race and gender stereotype primes significantly influenced agreement about an HIV/AIDS diagnosis being the individual's fault. The results of this study also show that stereotype priming does not occur when examining HIV/AIDS and smoking from a broad angle, hence, why the stereotype variables were not significant predictors of public opinion.

While sources and stereotypes had some influence on attitudes, they were not as influential as episodic/loss and thematic/loss frame combinations. This study correctly hypothesized that episodic/loss frames would prompt individual blame and that thematic/loss frames would encourage societal attribution of responsibility. The thematic/loss findings are reflective of conclusions drawn from experimental research; however, the positive relationship between episodic/loss news and public opinion is something that was not found in an artificial environment. Therefore, this study contributed to framing and agenda-setting theory by establishing that frame combinations do in fact influence public attitudes about medical news. And, as stated previously, this is the first study that used real-world news and polling data to study the effects of frame combinations.

Of course, while the media can only affect the public's perception to an extent, they are still very influential when it comes to health, which is one of the most popular and personally relevant topics covered in the news (Avery et al., 2009; Pew Research Center, n.d.; A. Shah, 2011). As the famous quote attributed to Benjamin Parker relays, "with great power comes great responsibility" ("Marvel

Universe Wiki: Spider-Man (Peter Parker)," n.d., p. 1). Therefore, because of the media's significant impact on public attitude, behavior, and opinion (Leask et al., 2010; Ogata Jones et al., 2006; Pierce et al., 1987), it is important that journalists continue to strive for balanced coverage while also encouraging the public to think about ubiquitous medical conditions as not just personal problems generated by harmful decisions, but rather issues that can be overcome by society at large.

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